THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery, and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXVII. — AUGUST, 1870. — No. 8.

Original Communications.

ARTICLE I.—*A Glance at the Rise and Progress of Cell Theories.* By I. N. DANFORTH, M.D., Chicago.

From an early period in the history of medicine, Physiologists and Anatomists seem to have realized that there *must* be some ultimate atom; some anatomical unit, from which the parts and organs of the body are derived, and by which they are maintained. But, although we are in possession of pretty reliable evidence that the magnifying properties of lenses were known to the ancients, we have no reason to believe that they were ever used for purposes of scientific investigation. Indeed, the specimens found in course of the excavations at Herculaneum and Pompeii are so rude and coarse as to be utterly useless except as mere toys. It is not therefore surprising that their knowledge of ultimate structure was next to nothing. Fallopius, about the year 1523, described elementary structure as consisting of bone, cartilage, fat, flesh, nerve, ligament, tendon, membrane, vein, artery, nails, hair, and skin—which, at the very best, was but a very faulty and incorrect classification of the tissues as they appear to the naked eye.

Although the compound microscope was invented about the year 1590 by the Jansens of Holland, (the Italians also claim priority) nearly a century elapsed before it was used to any extent in the examination of the animal tissues. Borellus, of Pisa, about 1656, seems to have been a "microscopist" of some note; but, like quite too many modern observers, he was afflicted with a "theory," and his observations were terribly distorted in support thereof. According to him, diseases were caused by animalculæ in the blood and tissues; consequently *his* peculiar mission was to *find* animalculæ—and of course he succeeded. He describes pus corpuscles as animalcules—and says that he has actually *seen* them depositing their ova! Did he not see the process of cell development by budding, and misapprehend its import?

On the authority of Boerhaave, Swammerdam discovered the blood globule in 1658. Towards the close of the seventeenth century, considerable progress seems to have been made in microscopic investigation, and a somewhat correct appreciation of the importance of this instrument seems to have been developed. Malpighi, in 1661–5, published accounts of the minute structure of the lungs, kidneys, spleen and liver; Hooke, in 1667, described the *cellular* structure of plants, and, in 1670, Malpighi made still further contributions in the same direction. The latter observer also conferred upon the cell the name of "utricle," thus taking the first step in establishing the confused nomenclature with which the subject of cytology is harassed and burdened to-day. But, to atone for that, Malpighi taught the very important doctrine that the cell or "utricle" is the seat of inherent vitality; that it is, of itself, an independent entity. Leeuwenhœck, in 1687, demonstrated the capillaries, and discovered the spermatozoa, ascribing to them their correct and proper function.

But no attempt seems to have been made at a systematic construction of the tissues of the body from a constant and ultimate element, until Haller, about 1757, promulgated his "fibre" theory. According to him, the tissues consist of two elements, namely, "fibre" and "organized concrete," whereof the former is the most important in that it is the seat of "irritability"—"the cause for all the phenomena of life"—and, consequently, the ultimate or primary agent of the phenomena of life. "Organized concrete," on the other hand, is a "mere glue" (Tyson) or connective

substance—and its functions are accordingly altogether physical. But this theory could not have been founded upon microscopic investigation, since he says that the fibre is invisible—distinguishable only by the "mind's eye." It is interesting, however, as an evidence of his belief in a *structural element*, uniform in appearance, and constantly present, which was the true seat of vital manifestations.

The theory of Wolf seems to have been a step backward rather than forward. He taught that the cell is a mere cavity, produced by the development ("differentiation") of the nutritive fluid, and not an independent entity; that this organization proceeded under the guiding influence of the *vis essentialis* or organizing power, resident in the nutritive fluid, thus transferring the seat of vitality from the cell to its pabulum or "blastema"—than which a greater error could hardly have been committed.

After the downfall of the "fibre theory," the globule asserted *its* claims to notoriety—and this was certainly a step in the advance, since it led *towards* truth, whereas the "fibre theory" led precisely in the opposite direction. From 1779 to 1839 the globule maintained its importance as an ultimate element. But it derived its chief importance from the labors of Milne-Edwards, whose work, published in 1823, was largely devoted to the elaboration of the "globular theory"—according to which the principal tissues of the body were constructed from globules, measuring from $\frac{1}{800}$ to $\frac{1}{3500}$ of an inch in diameter. Meantime, we must not overlook two facts; first, that great confusion had arisen in the terms employed by different writers—the words *granule*, *globule* and *molecule* being interchangeably and carelessly used, without a really definite meaning being attached to either; and, secondly, that the instruments employed were necessarily imperfect and coarse, and almost totally wanting in many of the accessories at this day deemed indispensable for the successful prosecution of minute investigations. Hence, it is more than probable that the true cell was actually seen long before its announcement by Schleiden, although its importance was totally unappreciated.

But the history of cytology, as a systematic branch of study, really commences with the observations of Schleiden and Schwann in the year 1838—so long was it from the invention of the compound microscope, to its practical utilization in the broad field of

physiological inquiry. The observations of Schleiden were chiefly confined to vegetable structure; he conceived and announced the theory that the cell is the structural unit, and that all plants are developed after a uniform method by means of cell multiplication. This theory "Schwann immediately extended to animal tissues," (Tyson), and the goal was reached! The importance of this announcement, in its bearings on physiology and pathology, can scarcely be overestimated; it was hardly, if at all, less momentous than the discovery of the circulation of the blood by Harvey. But, while Schleiden and Schwann took a long stride in the advance, they also fastened upon us a most egregious error, which the weight of their great authority served to perpetuate for years —namely, "free cell development," which is only another name for spontaneous generation. So late as 1857, that excellent scholar and writer, Peaslee, of New York (Histology, page 120), states that cells are developed "directly from the plasma, without the aid of a pre-existing cell." Intending to allude to this subject more at length in a subsequent paper, I content myself for the present by saying that I believe this doctrine to be utterly erroneous and dangerous. The nucleus, discovered by Brown, of Edinburgh, in 1833, was named, by Schleiden, the "cytoblast," or cell bud, and the hyaline fluid was by the same observer called the "blastema," or formative element of the tissues, which was but adding another rivet to the chain which binds us to the dead body of spontaneous generation. The word "blastema," however, is not to blame for this; it was *forced* into this unwilling service by Schleiden, having been frequently used by Hippocrates in a far different and more appropriate connection. It is somewhat uncertain whether the nucleolus was first discovered by Schleiden or Valentin; it is more than probable, however, that the merit of this discovery belongs to the former, although the term "nucleolus" was first applied by Schwann.

The discoveries of Henle (1841), who in general adopted the views of Schwann regarding primary cell development, chiefly relate to cell multiplication, and, on this subject, his statements have stood the test of time. He taught that cells multiply in three ways, namely: by segmentation, by endogenous cell development, and by "budding." The discovery of the last named

mode of development was a most important addition to our knowledge, though destined to lie dormant for many subsequent years.

The observations of Martin Barry (1840) relate to the changes that occur in the ovum *post coitum;* he recognized the fact that the ovum is practically a cell, and carefully studied and accurately described the changes which take place therein during development. He also called attention to the "germinal vesicle," which he correctly regarded as the proper "nucleus," and the "germinal spot," which, with equal correctness, he regarded as the "nucleolus." But the chief merit of Barry seems to have been, that he traced the development of cells from pre-existing cells—or "parent centres"—thus striking the first vigorous blow at the then popular notion of "free cell development."

Prof. John Goodsir seems to have added but little to our knowledge regarding cell *structure;* but he clearly conceived and quite fully announced the theory concerning cell *action*, which of late years has been so vigorously enforced by Virchow. Briefly, this theory is as follows: first, the body is divided into innumerable islets or "centres" of nutrition; these nutritive centres consist essentially of groups of cells, and these cells are in some sort presided over by, and are tributary to one central or capital cell, the latter being the probable parent of the others. This, it will be observed, is scarcely more or less than Virchow's doctrine regarding "cell territories." Secondly, according to this writer, the nucleus is the true centre of nutrition; the active and essential part of the cell; and all nuclei or nutritive centres are derived from pre-existing nuclei, and are never originated by a so-called "blastema," or formative substance, by any power outside the nuclei, and in this he assuredly anticipated Virchow. I think it is undeniably true that, however much or little merit there may be in this theory, quite too much praise has been awarded Virchow, and quite too little to Goodsir therefor; but certainly Virchow himself has not failed to properly recognize and acknowledge Prof. Goodsir's labors.

In a future paper, I propose to examine the doctrines of Huxley, Virchow and Beale, somewhat at length, together with their bearings on the present status and tendency of "cell doctrines." In conclusion, I wish to acknowledge my indebtedness to the excel-

lent little work of Dr. Tyson, of Philadelphia, "The Cell Doctrine,"* for very much of the material incorporated in the present article.

ARTICLE II.—*Fibrous Tumor of the Bladder Successfully Removed.* By A. REEVES JACKSON, M.D., Chicago, Ill.

Mrs. K., a resident of Monroe county, Pennsylvania, aged 40 years; married; is the mother of four children, the youngest of whom is ten years old. She is of spare habit of body, and for a number of years has been afflicted with a large femoral hernia of the right side, for which mechanical support has been used. Her general health has usually been good.

I was called to see her December 9, 1869, and obtained the following history: During the past four or five weeks she had experienced a rather frequent desire to urinate, the passage of the water being attended with more or less pain. On several occasions the urine had been bloody. These attacks of irritability of the bladder although becoming latterly quite frequent, were not of long duration—rarely lasting more than ten or twelve hours—and had not been sufficiently severe to impel her to seek medical advice. Six days previously, (3d inst.) after one of those attacks she suddenly found herself quite unable to urinate. There was a constant painful effort to do so, accompanied with many ineffectual straining efforts. A practitioner residing in the immediate vicinity was called to see her, and a variety of powerful diuretics, purgatives, etc., were prescribed. The pain meanwhile became constant and increased in severity. In the course of two or three days the urine began to dribble away, and the patient being unable to sit up, the bedding soon became saturated. Believing that his remedies had been *too effectual* the doctor (*sic*) now commenced prescribing others, with the view of checking this profuse flow. Among these opium was given, and although it did not lessen the incontinence, it yet served a good purpose, by procuring partial relief from pain.

* For sale by W. B. Keen & Cooke, Chicago.

At the time of my visit she was still under the influence of an opiate given the previous evening. Her skin was cool and moist; tongue covered with a dry brownish coating; pulse 120, small, with a quick, sharp beat. The lower part of the abdomen was much distended, and yielded a dull sound on percussion. During the examination the patient became sufficiently aroused to recognize me, and begged that I would do something to relieve her. I introduced a catheter and drew off nearly six pints of stale, bloody, rather offensive urine, with very great relief. Suddenly the flow stopped. The enlargement of the hypogastrium although very much lessened was still distinctly perceptible, presenting the appearance of a rounded, well-defined tumor. Under the impression that some obstacle was impeding the further flow of urine, I withdrew the instrument a short distance, and this manœuvre not being successful, removed it entirely, in order to examine the openings. These being quite pervious, I was puzzled, and introduced it again. No urine appeared; and as I attempted to change the position of the instrument somewhat, I became conscious of the existence of an impediment to its usual freedom of motion. I could press it a short distance forward and toward the left side, but a strong resisting body effectually prevented the turning of the instrument, either backward or toward the right side. I passed a finger into the vagina, but could not by any manipulation succeed in feeling the catheter through its walls. A male instrument subsequently introduced gave similar results. While its point could be distinctly felt through the thin abdominal wall when pressed anteriorly, it could not be turned at all toward the right side, and very slightly toward the left; neither could its course be felt from the vagina.

This was at eight o'clock in the evening. The following morning I saw her again at an early hour and learned that she had passed a comparatively comfortable night, sleeping a considerable part of the time. There had been some dribbling of urine, and she was still unable to evacuate the bladder by any effort of her own.

Introducing a male catheter I removed a little more than a pint of bloody urine, having a strong ammoniacal odor. Again, as on the previous evening, the flow abruptly stopped; again I found

that no change either in the direction or position of the instrument was sufficient to restore it; and, again, the evacuation of the bladder did not remove the persistent globular hard tumor of the abdomen. In attempting to carry the instrument about in various directions—which was done in the most gentle manner, and without producing much pain—I found the same difficulty, or rather the same impossibility, as had been noticed the evening before. On the withdrawal of the instrument, I found that its openings were partially closed by clots of fresh blood.

As the patient's residence was about sixteen miles from my own, I left a catheter with the husband, an intelligent German, instructing him sufficiently in its use, and ordered its employment at intervals of eight hours, or oftener if it should seem necessary in order to relieve pain.

I did not see my patient again for six days, at the end of which time I was summoned by telegraph, to visit her as quickly as possible. On my arrival, about noon, the husband informed me that, very early in the morning, his wife had awakened with a more intensely painful desire to urinate than she had experienced at any time since my former visit, accompanied by strong involuntary bearing-down efforts. As she could not void a single drop of urine —had not done so, in fact, since I saw her—he proceeded to introduce the catheter as usual, when, to his great surprise, he found himself prevented by the pressure of a mass of something resembling, as he said, a piece of boiled beef, having a grayish-red color, filling up and slightly protruding from the urethral orifice. In great consternation, he at once started for the nearest telegraph station, one mile distant, to summon me. On his return he discovered that the substance had disappeared into the bladder again. He now introduced the catheter without difficulty, and drew off a quantity of bloody urine, which had been set aside to await my coming, and which I found, on examination, to contain a large quantity of mucus and some pus in addition to the blood.

Several hours having elapsed since the bladder had been emptied, I introduced a catheter, and distinctly felt, as I did so, what I had not experienced on any former occasion, namely, an evident obstruction to its ready ingress. The impediment seemed to yield to moderate pressure, however, and the urine flowed freely. This

latter had now a dark brown, muddy appearance, was highly offensive, and contained a large quantity of muco-pus. A small amount of fresh blood followed the withdrawal of the instrument.

With the view of making a more thorough exploration a sponge tent was introduced into the urethra and permitted to remain four hours. On removing it I was enabled to introduce the index finger sufficiently far to perceive the pressure of a tolerably dense mass with a smooth surface occupying the lower part of the bladder, and pressing against and somewhat into the vesical orifice of the urethra. A larger tent was now introduced, and as the presence of the first one had been productive of considerable pain, a full dose of Morph. Sulph. was administered at the same time. As it was impossible for me to remain with the patient, or, indeed, to see her again in less than twenty-four hours, I directed the husband to remove the tent at the end of four hours; and further, having provided him with polypus-forceps, a tenaculum, ligature-twine, etc., directed him to seize the protruding substance, should it again appear, and secure it against return until my arrival. On the following day he met me as I was approaching the house, and with a triumphant air showed me a small bottle in which was a reddish fleshy-looking mass about the thickness and nearly the length of a finger. It was tough, rather softer in some portions than others, and seemed to have been moulded to the shape of the urethra in its passage. It had made its appearance, he informed me, on the withdrawal of the tent, and he had seized it with the forceps and fingers, and making firm traction (here he had exceeded his instructions,) had caused the patient very great pain, and had broken the substance off in the urethra, where he was unable again to reach it. The urethra being now very greatly irritated and excessively painful, it was deemed advisable to suspend, for a time, operative procedures. Cloths wrung out of a hot infusion of opium and arnica flowers were applied to the genitals, and a full dose of Morphiæ given internally. She was also to have the catheter passed at regular intervals; the bowels were to be moved by enemata; and she was to have beef broth, porter etc., daily, at proper intervals.

Two days passed. All had been done according to directions. The catheter had been regularly used with variable success. Sometimes the husband was aware of the existence of an impedi-

ment to its introduction, and at others he was unable to discover anything of the kind.

The irritation of the urethra having been sufficiently lessened, I introduced as large a sponge tent as possible, and removed it at the expiration of three hours. The passage was then sufficiently dilated to permit the forefinger to enter readily into the bladder, and with its point the growth could be distinctly felt. A long narrow bladed forceps was passed in, and efforts made to grasp a portion of the tumor, with very indifferent success, however. I only succeeded in detaching small portions, and bringing them away between the blades. These attempts were attended with considerable hæmorrhage, and I finally desisted. In a short time, and while I was pondering upon the best course to adopt, the patient was seized with severe pain and vesical tenesmus, and made frantic efforts to urinate. I hastened to introduce the catheter, when I discovered a portion of the tumor showing itself at the orifice of the urethra. I at once grasped it with a pair of small placenta-forceps, and with a succession of swaying movements from side to side, drew it out about two inches. I then substituted my fingers for the instrument, and twisted the mass slowly, like a rope. The patient although suffering the most acute pain, aided its expulsion by powerful bearing-down efforts. I succeeded, in this manner, in removing a portion of the growth eight inches in length, of the thickness of the thumb. Then it gave way, and the remaining portion receded into the bladder. I was much disappointed at this termination, as I had hoped to remove the entire mass at this time. Very little bleeding attended the operation, although a few clots of blood—the result, probably, of the attempts made an hour before with the forceps—escaped by the side of the tumor, as it was being withdrawn.

During the succeeding four or five days many pieces of the now disintegrated tumor came away. They varied very greatly in size, some being quite small—mere shreds, in fact—while others were an inch or more in length. The larger pieces moulded themselves, in their passage, to the size and shape of the urethral canal. Toward the last they became exceedingly offensive, as did also the urine, which was loaded with pus, blood, and numerous shreds. The larger pieces were taken care of and placed in alcohol, at my

request. The smaller ones, and that part of the growth which was softened down and passed off with the urine, of course escaped. The amount preserved weighs eight and a half ounces, and forms a mass as large as the closed fist.

The general condition of the patient now rapidly improved, so that at the end of a fortnight she was able to walk about the house. Incontinence, however, had succeeded the retention, and this still remained. The urine, which was now quite normal in quality and amount, was passing away continually, much to the disgust and discomfort of the patient. The bladder had contracted adhesions with the surrounding viscera, and its walls, thickened and hardened by inflammatory deposits, could be distinctly felt, filling a space in the hypogastric region as large as that occupied by the gravid uterus at four months. It was thus prevented from being either a retaining or an expelling organ, and I had nothing better to suggest for the patient than the use of a urinal, which was procured for her, and which she wears with a good degree of comfort.

April 30th, I saw Mrs. K. again. She had then fully regained her general health. The incontinence was improving. In certain positions of the body she could retain the urine nearly an hour, and felt hopeful that she might get entirely well. The bladder appeared also to be regaining its power; for there were times when with one or two ounces of urine retained, she found herself able to expel it with a fair degree of force.

Submitted to microscopic examination, a section of the tumor presents the same fibrous and vascular appearances as are seen in the case of uterine fibroids; and, indeed, on comparing it with a specimen of the latter, the two, both in their general character and minute structure, appear to be identical.

There are some points of interest connected with the foregoing case that seem to justify a few remarks.

It is, in the first place, as far as I am able to ascertain, the first of the kind that is recorded as having occurred to an American surgeon. Fibrous tumors are confessedly among the rarest, and perhaps are indeed the very rarest, diseases of the bladder. Thompson, in his admirable monograph on the *Urinary Organs*, says, "Thus, first, we have simple fibrous growths, springing from the walls of the bladder and wholly unassociated with the prostate;

the rarest of all forms—in short, exceedingly rare, known to me personally only in museums." Gross, with his vast experience, mentions the fact that not a single case has occurred to him. This latter author states that "Zacatus Lusitanus found in the bladder of a man who died of retention of urine, a polype of the size of a goose's egg, the interior of which was occupied by a tough, glutinous substance. This was situated at the neck of the viscus, while another, a harder and more fleshy mass, existed in the body of the bladder." Baillie saw but a single case, and that one he does not particularly describe. Other cases are mentioned by Warner, Kirchner, Walther, and others. Mr. John Birkett records (*Medico-Chirurgical Transactions*, 1858,) a case which he styles one of *Fibrous Polypus of the Urinary Bladder*, but which, from the account given of the microscopical examination, was clearly not fibrous at all. Appended to the report of this latter case is a table of ten recorded cases.

In the case of Mrs. K., no one can fail to be struck with the fact that the tumor acquired so great a size in the short time over which the symptoms denoting its presence extended. Mr. Coulson makes especial mention of the fact that "they seldom acquire a large size, and their growth is not rapid." Indeed, in most of the reported cases of the disease, the history has extended over several months, and even one and two years, before the symptoms became especially marked and urgent. Here, however, we find a growth attaining the size of a large orange in a period of five or six weeks, unless, indeed, we admit that it may have existed a longer time without producing any symptoms indicative of its presence, or interfering with health.

No. 1026 Wabash avenue.

ARTICLE III.—*The Use of the Thermometer in the Diagnosis of Fever.* By THOS. C. MURPHY, M.D., Green Valley, Ill.

Galen defined fever as a preternatural heat. Other additional clauses have since been added, such as quick pulse, turbid urine, etc. But with the advance of science, many of the high-sounding

terms have been swept away. Yet, to-day preternatural heat cannot be blotted out. As during fever there always is an increase of temperature, such increase of heat must arise from an increased tissue-change, and have its immediate cause in alterations of the nervous system.

Now it is plain to see, that the hand is not the proper instrument with which to measure the amount of abnormal heat. A man may shake with a paroxysm of ague until his teeth chatter, he will get as near to the fire as is convenient, in fact he is *cold*. But the thermometer will indicate an increase of heat during the cold stage of from six to eight degrees Fahrenheit. Now, when the physician uses his hand to judge of the amount of abnormal heat, or when the feelings of the patient alone are taken as the measure of his temperature, it can easily be understood how such kind of observation must be doubtful, fallacious and unsatisfactory. The use of the thermometer as a clinical assistant was recognized over one hundred years ago. But at that time it seemed impossible to find a reliable instrument. Now the thermometer is within the reach of all, and the time taken to apply it is so insignificant that the physician or student of clinical medicine has no excuse for neglecting to use it. The careful physician counts the pulse and respirations in all cases of sickness, and it is now incumbent on him to measure the heat. I claim that the use of the thermometer facilitates the clinical recognition of disease, and the progressive physician should use all means at his command to find out "what's the matter," and lack of time is no excuse, for patients soon learn to attend to the instrument, if they are not too sick. What physician is not able to spare his patients from three to five minutes extra time? The less such persons a community is blessed with, the better for them.

The form of thermometer I prefer is the curved one, and the axilla the best situation to place the instrument in, taking care that all the clothing is removed from the axilla. The axis of vision should fall perpendicular on the column of mercury in the tube. In all observations of the temperature note the pulse and number of respirations at the same time.

The temperature of the body is the result of the opposing action of two factors. 1st. Of the development of heat from the

chemical changes of the food, and by the conversion of mechanical force into heat, or by direct absorption from without. Opposed to this is evaporation, which assists in equalizing the heat of the body.

Our best information in regard to the normal heat of the body comes from Valentin, Bernard, Edwards, and Dr. John Davy, of England. All agree that the heat varies in different parts of the body. But they also agree that the normal heat of the body, in completely sheltered parts of the surface, is 98° or 98.5° Fahrenheit. A temperature of 99° or a depression below 97.5° Fahrenheit are sure indications of disease, if the increase or depression is persistent.

As a general rule, an increase of temperature of one degree above 98° Fahrenheit, corresponds with an increase of ten beats of the pulse per minute, if the patient is not under the influence of sedatives. Increase of temperature is always present during fever; we would not have fever if such were not the case. The greater the amount of heat (as measured by the thermometer) the greater destructive tissue-change there is going on. Coldness of the surface is a delusive symptom. I claim for the physician who depends on the use of the thermometer as a guide, greater certainty in his diagnosis and prognosis. The physician should use the thermometer daily, and in all cases, and, if possible, make the observation at the same hour, in the most important cases at least. If called to a patient who has been in good health previous to the attack, should you find the temperature at 105° or 106° Fahrenheit, you may feel safe in saying, the case is of malarious origin. On the other hand, should a patient's temperature range for several days above 98.5° as follows: 1st day, morning, 99° Fahrenheit; evening, 100°; 2d day, morning, 99.5°, evening, 106.5°—morning, 101.5°, evening 102.5°; 3d day, morning, 102°, evening, 103°; 4th day, morning, 103°, evening, 103.5° to 104° Fahrenheit, you may diagnose typhoid fever, even should the usual symptoms of typhoid be absent. But should the rise of temperature be abrupt, to 104° and fall to 98° within the 24 hours, you have not to do with a case of typhoid fever. Constant, persistent elevation of temperature, is as certain of the history of typhoid fever, as that of the sun's setting in the west. Certain febrile diseases are found to give typ-

ical ranges of temperature, or daily fluctuations throughout their course. This is the case in uncomplicated cases. Malarious fever, typhus, typhoid fever, small-pox, scarlatina, measles, rheumatism, pneumonia. In each of the above diseases the temperature is one of the most certain means for determining the real state, as regards morbid disturbances and complications, and a careful observation of the temperature from day to day, is indispensable for judging as to the prognosis. Frequently it affords the best and ultimate means of deciding in doubtful cases, and often it is the best corrective of a too hasty conclusion: for should complications be liable to occur, the increase of temperature will put you on your guard.

A case, recently in my own practice, will serve to illustrate. A case of pneumonia, on the morning of the 4th day gave a temperature of 102.5° Fahrenheit; case doing well, but on the morning of the 5th day I find the temperature 105°; on calling at night, I find a true diphtheritic exudate on the fauces. I am positive there was no exudate in the morning, and there were no symptoms of diphtheria on the morning of the 4th day. If it were not for the aid of the thermometer in the above case, the patient might have been gathered to his fathers.

Again, in typhoid fever, if you find during the third week of a severe case that the temperature has fallen to 99° or 99.5°, the reparative stage has begun—the healing of Peyer's patches and a similar fall of temperature at night, shows convalescence has commenced. The morbid process does not end until the normal temperature of the body returns and remains unchanged through the day and night.

I do not wish any one to think that the thermometer will do all for them, it will not; it is only a useful and trusty aid to the physician, and student. Don't ride it. What would we say of the man who objects to auscultation or percussion? In auscultation we have the advantage that our ears are always here. In percussion the hand is always at hand. We cannot say the same of the hand as a heat measurer, for it don't tell the truth, it fails us here at least, even if "feeling is the naked truth." The live man of to-day must bring to his aid the improvements of the times, seek to elevate himself in his profession, feel that he is interested, and leave the American Medical Association to talk of reform, make stump

speeches, everything only what they claim to do—elevate the profession.

It is no reason that because, perchance, our grandfathers did not use the thermometer we should not—it won't do. Times have changed since Eberle wrote. Calomel and Jalapa are not recognized, to-day, as panaceas for all ills. Progress marks the march of scientific medicine. We must not puff about reform, but assist in doing it.

ARTICLE IV.—*Hydrate of Chloral in the treatment of a severe case of Chorea.* By J. S. WHITMIRE, M.D., Metamora, Ill.

Having been reading up the therapeutic action of the Hydrate of Chloral as it has been published from time to time in our periodical medical literature, and having become satisfied of its powerful remedial agency in the treatment of our common neurotic diseases, I had determined, on the first occurring opportunity, to test its virtues. About the time that I had come to this determination, I was called in consultation with my brother and partner, Dr. Z. H. Whitmire, to see Miss A. H., aged 14 years. She had been afflicted with Chorea for four or five weeks, and had been under the usual treatment for the same length of time. The disease was first manifested in the twitching of the muscles of the face, which gradually extended to the left arm, at which time the parents naturally became alarmed and sought advice of my brother. He directed that her bowels be thoroughly evacuated, and then put her on Ferri. Mur. Tinc., Pot. Chlor. and Ammon. Mur., Spts. Nit. and water, three or four times per day. She was also given Pulv. Assafœtida and Quinine in powders four times per day. A hip bath was recommended at bedtime, and to have her surface well sponged every evening. Her bowels were kept in a soluble condition by mild laxatives, of which Aloes was an ingredient; this, with the hip bath, he supposed would bring on the catamenia, in case that this had anything to do with the exciting cause of her troubles, and, in any event, it could work no injury to his patient, even if it was not the cause of her malady. At the end of a week or ten days, this treatment

proving of no avail, and his patient steadily growing worse, in addition to the above, he dry-cupped her spine every day from the nape of the neck to the lower dorsal vertebra, and as her nights were very restless, with disturbed sleep, he added a Dover's powder at bedtime to induce sleep. Ten or fifteen days more having elapsed without any amelioration of her symptoms, he directed her spine to be blistered, her feet bathed every night, a cup of Valerian tea to be given three or four times per day, with the continuance of the Chalybeate Mixture, and her condition persistently growing worse. About this time I was called with him to see her. I found her the most pitiable object that I ever beheld. By this time she could neither sit, lie nor stand, but was continually in motion, every muscle in her body partaking of irregular motion; her face drawn into the most ludicrous grimaces; her head, limbs and body in constant motion; and unable to articulate a single syllable. She had to be fed by her friends, and very often swallowed both her food and medicine with great difficulty. She had slept but very little for more than ten days, and even when she would get into a disturbed rest, she would awaken in the most terrible alarm, and scream and cry to the extent of her ability, and listen to no attempt that was made to quiet her, till she would be completely exhausted, so that she was in imminent danger, at any moment, of going into general convulsions. She had become anemic and very much emaciated, so that the vital forces were nearly exhausted, and was now entirely incapable of locomotion. And, while I am aware of the fact that but few die of this, without some intercurrent disease, I am convinced that the VITAL SPARK in this case must soon have become extinguished had not an abatement of the disease speedily taken place. I prescribed Griffith's Antilithic Mixture, prepared with Aqua Camphoræ, instead of Aqua Rosæ, as directed by the pharmacopœia, and added an ounce of Sugar and a half-ounce of Tinct. Guiaac. to an eight ounce mixture, of which she took one teaspoonful, in water, three times per day. I continued the Pulv. Assafœtida and Quinine four times per day, and, at night, to procure sleep, of which she had been so long deprived, I administered from ten to twelve grains of Hyd. Chloral, dissolved in two ounces of water. When it was necessary, her bowels were opened

with a mild laxative pill, and her diet consisted of beef tea, all she could be induced to swallow, and soft boiled eggs, till convalescence was beginning to be established, after which she was allowed solid food. For fear of accident, after having given her the first dose of Chloral, I remained at her bed-side till she went to sleep, which was probably not to exceed half an hour, and I then remained an hour longer to observe the effect after she should be completely under its influence. At the end of that time I was satisfied that she would rest the balance of the night, so that I left her without the least apprehension of danger from the medicine. In the morning I found that she had slept SEVEN hours as tranquilly as a babe, having awakened once or twice during the time, but dropped into quiet slumber in a moment after. She was now quieter than she had been for some time, and on every returning evening I repeated the same dose of Chloral till she was clearly convalescent, which was seven or eight days, after which the dose was gradually lessened for a week more, and then abandoned altogether. The Chalybeate Mixture, Assafœtida and Quinine, was continued till her health and strength were perfectly restored, which was probably four or five weeks from the time that the Hyd. of Chloral was first used.

In this case, the Chalybeates, bitter tonics, and anti-spasmodics were clearly indicated, and, as far as they went, were just what the child needed, but they were not sufficient within themselves to fill all the indications of treatment in this particular case —for none of them would, or did, produce rest, sleep and tranquillity—just the three things most necessary to produce a change in her condition. The only thing necessary, in the whole catalogue of remedies, to put my patient upon praying grounds, in this erratic disease, along with the other treatment, was something that would induce sleep, without, in the least, disturbing any of the natural functions of life. This was found in the Hyd. of Chloral, and without it; or its equivalent, she must have succumbed to the exhaustion produced by the incessant involuntary motion to which she was subjected. But the rest and sleep produced by this agent, permitted the vital forces to resume their wonted power, and jaded nature to again build up the wasted tissues and resume their rounded form.

JUNE 22d, 1870.

ARTICLE V.—*Clinical Lecture.* Delivered at St. Luke's Hospital. By JNO. E. OWENS, M.D., Surgeon to the Hospital. (*Thrombosis and Aphasia.*)

(Continued from last Number.)

Now, gentlemen, having finished our remarks upon the leg, let us turn our attention to other symptoms, not less interesting, namely, the paralysis, which manifested itself on the right side, the sixth day after the occurrence of the pain in the foot and leg, and the patient's inability to give expression to his thoughts. The first is called hemiplegia, which, as a symptom, is familiar to you, and of which I need say very little. The second, (impaired articulation) has been designated by several names, but I will only burden your minds with that which seems the best—Aphasia. The word itself means want of speech, and the condition of an aphasic, is, for the most part, one of inability to express thoughts by words, by writing and by gestures. There seems also to be some impairment of the intelligence. There is generally a transitory hemiplegia, which, where it does exist, is almost always on the right side. The symptoms—the paralysis, and the defect in articulation—come on suddenly. Let us see how far the phenomena, in our case, will agree with this definition. You will remember, that he called the nurse at six o'clock, A. M., asking him if he did not intend to get up soon. A few minutes afterwards, the nurse, upon going to the ward, discovered that the patient mumbled his words so as not to be understood. At the morning visit, (half-past ten o'clock,) the right arm and leg, and the right side of the face, were almost completely paralyzed. The muscles of the left side of the face, being intact, drew the corresponding corner of the mouth towards that side. The patient was unable to thrust the tongue from the mouth. The paralysis of the leg was well nigh complete. He was perfectly conscious. This condition of paralysis, you observed, prevented motion on the right side, and, at this stage, the paralysis of the tongue accounted for the inability to speak.

The paralysis, occurring Sunday, October 7th, had disappeared by Wednesday, October 10th, leaving the arm and leg weakened for a day or two longer. Although at this last date, he could thrust out the tongue and move it in every direction, his articulation

was sadly impaired, and he had only several words at his command. "That'll do," "No," and "Yes," composed his vocabulary. You will remember that he used "No" occasionally, and only twice, I believe, did he employ "That'll do." "Yes," seemed to be the favorite, and it was generally repeated rapidly three times in succession—"yes, yes, yes." The word was more frequently an incorrect than a correct answer to the question asked. For instance to the following questions:—"How are you?" "have you much pain?" "what day is this?" "when were you admitted to the hospital?" the common answer was "yes, yes, yes." It seems, then, that when "yes" was a correct answer, it was also incidental, and expressed nothing intelligent. You will remember also, the patient's inability to tell his age. He never could articulate more than "thir," which is but a part of a word, yet he manifested, in his expression, very evident vexation, because of his inability to answer perfectly. When told that he was forty years old, he answered, "no." When told that he was thirty-two, with an expression of satisfaction, he answered, "yes." Hence we must conclude, that this word, which generally signified nothing, could be made an expression of intelligence.

You will also remember that the patient was unable to tell us his birth-place (England), after he became aphasic. And although when told that he was born in France or Germany, he replied, "no," he answered "yes" when England was mentioned. This shows that he knew, perfectly well, his birth-place, and yet except in this peculiar manner, could give us no information upon that point. He could not articulate the word England, any more than he could say France or Germany, or tell us his name. The patient was not even so successful in writing as in speaking. For he was unable to write a single legible word with either hand. Wherever I have known the experiment tried, in health, one, who can write with the right hand, can, with care, write a single word, at least, with the left hand. His attempts to write, resembled, very much, the tracings of that grand humbug—"La Planchette." He always, after attempting to write, threw the slate aside, manifesting the most marked expression of vexation. I suppose we may be allowed to include expression amongst gestures. If so, you will perceive that the patient was as limited in gesture, as he was

in speech. Although, on several occasions, the patient manifested vexation in his expression, yet when asked to simulate an expression of vexation he was unable to do so.

You must not suppose that all cases of Aphasia are exactly like this one. The symptoms are varied and curious. Certain patients, whose modes of expression are as limited as those of the case under consideration, appreciate the relative value of cards, play a good game, and exult over success. An aphasic, a Frenchman, who could articulate "bonjour" could not be made to say bonbon—a mere repetition of the first syllable.

Again, Aphasia frequently sets in without paralysis; there is another class, in which the hemiplegia is but slightly marked and transitory; and a third class, in which the paralysis is more persistent. The prognosis is the most unfavorable in the latter class, because, in this, the brain lesion is the most extensive—the most deeply seated. There is another curious point in connection with this affliction, namely, the paralysis, when it does exist, is almost invariably on the right side. Now what must have been the cause of Aphasia which was persistent, and the well marked hemiplegia which came suddenly, and which disappeared in three days? Hemorrhage into the brain substance does not produce paralysis, so nearly complete as this, without coma. In sudden and complete or nearly complete hemiplegia, with coma, you may be pretty sure of cerebral hemorrhage. Sudden paralysis, complete or nearly complete, without coma, is ordinarily due to the softening of the brain. I felt sure, in our case, that a thrombus had occurred in one of the cerebral arteries going to the left side of the brain; that the paralysis commencing at the time of the occurrence of the thrombosis, disappeared as the collateral circulation became established; that the Aphasia, which had a cause, in common with the paralysis, was kept up from the supervention of softening. Thrombi usually take place in the middle cerebral artery, as it passes through the fissure of Sylvius. An examination, however, of the arteries failed to confirm the diagnosis of thrombosis. It is possible that a thrombus may have occurred in some part of the internal carotid, as it passed through the base of the skull. The body was taken away for interment, soon after the brain was removed, and it was impossible to carry the examination any fur-

ther. This seemed to me the best explanation of a hemiplegia, occurring suddenly, so nearly complete, but disappearing in three days. I should not have expected such a disappearance in case of softening alone. Yet you must not lose sight of the fact that this transitory hemiplegia belongs to a majority of the cases of Aphasia —cases in which neither thrombi or emboli exist. The theories referring to the causation of Aphasia, are, unfortunately, somewhat numerous. Not one of them, however, will withstand pathological research. Indeed, the pathology of this affection seems, as yet, undetermined. If we have one set of pathologists placing the organ for the manifestation of thought by speech in the two anterior lobes of the brain, an authentic case is recorded, where, in a duel, an officer was struck in the temple by a ball, which passed through the two frontal lobes, in their middle portion, and from the first day there had been neither paralysis or any hesitation in speech.* If we have a second set, locating the organ of themanifestation of thought by speech exclusively in the left hemisphere, an equally authentic case is recorded of Aphasia with left hemiplegia.* If we have a third set, locatingt his organ in the posterior part of the third left frontal convolution, a case is recorded, where the autopsy is made by an eminent observer, in conjunction with the originator of the latter theory, and where both macroscopical and microscopical examination forced the conclusion that the posterior part of the third frontal convolution w: s not diseased.* A fourth class have located this organ at the junction of the frontal and middle lobes of the left side. The case which disproves the second theory mentioned, also disposes of this one. We see, then, how very little, that is definite and reliable, has, as yet, been discovered concerning the pathology of Aphasia. We have gained very little information, on this point, from an examination of the brain, which, although removed in due time, was not examined for forty hours subsequently, at which time the whole brain was much softened. It was plainly to be seen, however, that the posterior part of the left frontal lobe, the insula of Reil, a small portion of the middle lobe, the corpus striatum, and probably the optic thalamus, were softer than the surrounding brain substance of the left side, and the corresponding parts of the right side. The autopsy, under

* Trosseau.

the circumstances, I think is not of very much value. Yet the whole case is very interesting. The field is open for the microscopist and physiologist, to whom we look for a better understanding of Aphasia.

112 Randolph Street.

ARTICLE VI.—*Atropia* vs. *Morphia.* By THEO. W. STULL, M.D., Marengo, Ill.

As the antidotal powers of Atropia against Opium or any preparations therefrom, is pretty well established, as a fact in therapeutics, I have thought that perhaps the report of an unsuccessful case of my own, might suggest to others, as it has to me, that the failure should more properly be attributed to myself than to a lack of virtue in the medicine.

April 21st, 1870, was called to see Mr. A. V. L., by the druggist, who, a short time before, had sold the man 10 grains of Morphine (Sulphate), and, by the way, not without the requisite amount of caution. I arrived at 4 o'clock, P. M., and found the man lying on the bed, surrounded with friends anxious and importunate that something should be done at once. The patient seemed calm, and complained that we were raising a terrible "rumpus," and did not want to be disturbed. He said he had taken the ten grains at once, somewhere from half an hour to an hour before. He had eaten ravenously several times during the day, and only a short time before taking the dose had eaten an incredibly large dinner at a dining hall. The breath unmistakably showed that he had been drinking freely. I at once gave twenty grains Sulphate of Zinc in one-third glass of water, which he refused to take at first, but made no resistance when it was urged upon him. In ten minutes it was repeated, and twenty grains of Ipecac. added, he then remarking that he was just now getting into a condition to take a nap. Tickling the fauces was of no avail, and a third dose of the Zinc as well—the stupor coming rapidly on, and he was soon entirely insensible. We had no stomach pump, and I now resorted to the Atropia by hypodermic injection. The pupil was contracted to a pin-head in size, respiration seven per minute,

pulse 120 and skin blue. Absorption was extremely slow, and it was some little time before the dose of $\frac{1}{48}$ grain Atropia Sulph. was absorbed. It was repeated, until in half an hour one-twelfth grain had been given. The result was that the pupil became dilated to its fullest extent, the respiration rose to twelve per minute, and in this condition he remained till death closed the scene, a few minutes before ten o'clock, in the evening. Dr. Hagar came to my assistance about six o'clock, and we improvised a stomach pump from a large gum elastic catheter and a syringe, but it was of little effect, except that we were able to fill the stomach full of strong hot coffee.

And, now, though the physiological effect of the Atropia upon the pupil was maintained throughout, ought not the dose to have been increased? I think it should, and on a similar occasion would not stop short of three-quarters of a grain of the Atropia, deeming that amount nearer an equivalent to the large amount of Morphine taken in this case. I would not be governed wholly by the physiological effect produced, unless it seemed entirely adequate, soon, but rather by the amount of the opiate taken. There was a marked amelioration of the symptoms upon the pupil becoming dilated.

ARTICLE VII. — *Death from the Use of "Hair Restorer."* Report of Committee of Investigation as to the Cause of the Death of Dr. J. M. Witherwax, of Davenport, Iowa. Read before the Scott County Medical Society. By JOHN W. H. BAKER, M.D., Chairman of Committee.

Historic Symptoms.—Something more than three years since, Dr. Witherwax was suffering from pains of an abdominal or colicky character, and at the time attributed them to malarial disease which he thought he had contracted in the South, while serving in the army during the war. He treated himself with that view of his case, and, after protracted treatment finally was somewhat improved; still he was occasionally subject to the pains in a more moderate degree for the next eighteen months. These attacks of pain were usually free from tenderness over the abdominal

region, and would subside after vomiting; these symptoms, causing him at times to attribute his indisposition to something of a dyspeptic character. A little more than a year ago he was attacked again with an increase of the abdominal symptoms and these gradually grew worse until he had anæmic pallor, with evident jaundiced hue of the skin, disagreeable fetor, and bad taste in the mouth, loss of appetite, constipation, emaciation, and muscular debility. Pain in the abdomen gradually increasing, he at length became prostrated, and protracted vomiting occurred, which for several days was so persistent that hardly a particle of nourishment was retained within the stomach. So soon as the mildest nutriment was taken into the stomach it was followed by most distressing gastralgia, and within a short time was ejected, sometimes with a quantity of bile, and at other times with merely a small quantity of gastric juice or slimy mucus. Even after the most aggravated attack, when free from pain, the abdomen was not unusually tender, and never seemed uncommonly tympanitic.

The pains were paroxysmal or spasmodic. There were no evident febrile exacerbations; the increased heat of the body being only evident under the impulse of the extremely severe pains.

Diagnostic Symptoms.—The gradual development of the symptoms, such as the muscular debility; the peculiar character of the pains, such as the drawing, knotting, and obstruction, indicating in its changes, gastric, iliac, and colic varieties of location; the loss of appetite, and the final almost uncontrolable emesis, would and did indicate some other source of disease than the malarial influence left in his system from southern exposure and disease of several years previous. No medical authority would be consistent in attributing to such latent cause the persistency which these symptoms presented, returning, as they did, at intervals of one year in the more severe manifestations.

We therefore turned our attention in search of some other and more definite or positive cause. Having seen several cases of Colica Pictonum, and recognizing the similarity of the symptoms in this case, we were led to the inquiry as to whether our professional brother could by any means have been influenced by Saturnine Poison.

We readily ascertained that he had been in the habit of applying

one of the popular "Hair Restorers," very frequently and copiously to his hair and whiskers, they being naturally almost snow white. With this application he had for a long time had his barber saturate his hair twice each week, and beside this was accustomed to keep a bottle of the same in his office, from which he would occasionally dress his whiskers, during the intervals of its regular application.

Under the directions of the editors of a London Chemical Journal, Mr. Henry Matthews, F. R. C. S., has recently made an analysis of some of the most widely advertised Hair Restorers, and finds that Sulphur, *Acetate of Lead*, and Glycerine, are the ingredients in every one of these much-lauded preparations. The editors of the *Medical and Surgical Reporter*, (Phil.,) in summing up a notice of these examinations, say: "Now it is notorious that the Acetate of Lead is an accumulative poison which in many instances has caused incurable paralysis."

"'Mrs. S. A. Allen's World's Hair Restorer,' by Mr. Matthews' analysis, contains (in an eight and one-half ounce bottle), Sulphur 75.6 grains, and an amount of Lead corresponding to 87 grains of the Acetate of Lead." "'Hall's Vegetable Sicilian Hair Restorer,' a bottle containing six fluid ounces, furnished 70.2 grains of Sulphur, mixed with Sulphate of Calcium, (milk of sulphur having evidently been used in the case,) also Lead, corresponding to 50.8 grains of the Acetate of Lead."

The several other Hair Restorers examined gave a very similar proportion of these ingredients, whether advertised as *Vegetable* or not.

Following these evidences we examined the symptoms indicative of lead poisoning, and find colic among the earliest symptoms; not acute at first, nor of long duration, but frequently returning, and at length becoming intolerably severe. The mouth is dry, generally absence of fever. Sickness of the stomach is present and sometimes vomiting, which will last for several days; abdomen drawn in toward the navel, and the sinking is more observed as the pain becomes more intense. Costiveness is very common and the alvine excretions are discharged with pain and difficulty. Prostration, emaciation, and sometimes paralysis, are the more advanced stages of its prolonged attacks.

Looking at these symptoms and comparing them with the symptoms which were present in the case of Dr. Witherwax, associated with the fact as to the application of the Saturnine Hair Lotion, and one can hardly come to any other conclusion than that the application of the wash and the symptoms can stand in no other relation to each other than as cause and effect. Under this impression Dr. W. was informed that he evidently had the symptoms of a person laboring under the influence of Lead Poison.

For the proof of the correctness of the above conclusion we have the more recent symptoms, and eventual death and post-mortem appearances to record.

About the middle of May, 1869, Dr. Witherwax was attacked with colic pains and disturbed digestion, soon followed by vomiting; these painful attacks occurred most frequently during the night time. After vomiting, the symptoms subsided in a measure, sometimes to be less severe for a day or two, when they would again return. These pains were associated with a constipated condition of the bowels, rendering it necessary for him to frequently take laxative or cathartic remedies, these remedies procuring small scybalous evacuations. At the same time he was accustomed to take an opiate in some form to relieve the pain. A peculiar icteric pallor was permanently fixed in his countenance, and his physiognomy expressed more or less an anxious appearance. Mouth dry, and tongue slightly coated; the uncomfortable taste in his mouth caused him to frequently resort to washing and gargling to remove the fetor. These symptoms gradually increased until about the 12th of June, 1869, when he became completely prostrated, and was obliged to give up his business, and became confined to his couch. His symptoms were now of an aggravated character, in all respects most severe, and the only relief from pain was derived from large doses of Morphia or inhalations of Chloroform. Vomiting of bilious matter, and the ejection of all nourishment; inactive condition of the bowels; extreme dryness of the mouth and fauces. There was very little tenderness over the abdomen, at least not such as indicated inflammation of an acute character. The pulse was only excited to unusual frequency while suffering from severe pain. The extreme prostration, with all the symptoms unchecked by medication, finally terminated his earthly existence, on the 24th day of June.

An autopsy was held about thirty hours after death, in the presence of quite a number of the profession.

In general appearance, the body was emaciated and pale, with ecchymosed spots over a portion of the abdominal surface. On exposing the abdominal contents found the peritoneum congested throughout its extent, both the omental and parietal portions. The intestines were not unusually distended with gas. Stomach, duodenum, and intestines generally, presented a dark color, much darker than usually found in inflammatory affections. Adhesive bands and general adhesive surfaces had formed between the intestines and the parietal portion of the peritoneum, on the right side; these bands and adherent surfaces were apparently of long standing, and probably date back to a severe attack of entero-peritonitis, which he had in New Orleans, during his service in the army. There was no evidence of recently deposited lymph, about the abdominal cavity, either organized or in its more fluid form. On opening the stomach, found it to contain a blackish green slime of the same character of the bilious matter vomited during the last few days of life. The mucous coat of the stomach showed some evidence of disorganization and gangrene. There was an unusual thinning of the coats of the stomach. The duodenum was congested, and exhibited more nearly evidence of recent inflammation than any other portion of the intestinal canal which was examined. Still no evidence of ulceration was found. The ilium, jejunum, cæcum and colon being examined at different points showed a considerable degree of congestion. An inflammatory condition was apparent in the glands of Bruner, which although enlarged and softened in some degree, were none of them found ulcerated. The spleen, of ordinary size, presented a bluish leaden color.

The liver was not enlarged, remaining of about the ordinary size. It presented much the appearance, externally, of having been parboiled. On opening into the substance it presented a light-ocherish color, resembling the color of Scotch or yellow snuff. The parenchyma was easily broken down under the finger, indicating softening of the organ. It resembled the condition usually described as fatty degeneration, with the exception of the enlargement and rounded edges, which are usually present but which were lacking in this case.

Gross, in his Elements of Pathology, says: "In fatty degeneration or fatty liver the organ is always larger than the healthy one, and its edges are knobby or obtuse." This was not the condition presented here; neither was there, as is usual, a fatty deposit on the surface or about the edges of the organ, the whole surface being unusually destitute of fat.

Some authors draw a distinction between adipose infiltration and true fatty degeneration, and observe that the former condition occurs more frequently than the latter. They hence conclude that in by far the greater number of cases of fatty liver they are not to be regarded as a result of mal-nutrition of the hepatic cells, but as the result of causes acting from without. Frerichs says: he "hesitates to identify the destruction of hepatic cells with fatty degeneration, but is disposed to regard an exudation process as the starting point of the disease." Rokitansky, and others, refer the destruction of the hepatic cells to the action of the bile. We hold the opinion that there may be a condition of color and modified organic change in the organ resembling fatty degeneration, but arising from causes so markedly the antipodes of what we usually see in fatty liver that it should not be termed fatty liver or fatty degeneration. In fatty liver the hypothesis is, that there is degeneration of hepatic cells, and this most frequently occurring in individuals accustomed to the indulgence of high feeding and indolence. In the case supposed to resemble a fatty degeneration of the liver tissue, we have no evidence of the degeneration of cell tissue, but a generally permeated circulation of fat globules, evidently drawn from the system by absorption, and serving the purpose of a circulating fluid, rather than a material for deposit in any special organ. We look upon the fatty liver, in its ordinary acceptation, as an increase of organized material; while we look upon its resemblance, as exhibited in the case before us, as the result of an extreme disorganizing force in the system. Of the former of these conditions, we have, as illustrative, the fatty liver of the indolent and gluttonous and the intemperate. While the latter (in resemblance of color and softened substance) occurs in cholera, yellow fever, and such exhaustive diseases as induce great emaciation, lack of digestive stomachic nutriment; hence necessitating a drain upon the body tissues, for the effort to sup-

port life. With these remarks our conclusions would naturally be that this condition found on post-mortem examination of the liver was not the special cause of death.

We will here introduce the microscopic and chemical examinations in the case as reported by the committee of investigation, which were recorded by Drs. Hazen and Cantwell.

To Dr. J. W. H. BAKER, Chairman of Committee to investigate the cause of the death of Dr. Witherwax:

Sir:—In conformity with the duty given me on the Committee, I have respectfully to report, that I have examined a portion of the liver, spleen, and kidney of Dr. Witherwax, both microscopically and chemically. The microscopical examination was made in conjunction with Dr. Farquaharson, (also, a member of the Committee). We found the liver to be extremely fatty —the cells gorged with oil globules; no colored granules or masses were seen.

The chemical analysis, a part of which was made in conjunction with Dr. Cantwell, (another member of the Committee,) was also carefully made. A portion of liver was obtained from Dr. French, who had preserved it in a test tube, with acetic acid. There was but a drachm of it, and the tests were delicate in their action. The second portion examined was much larger, and was obtained from Dr. Cantwell, and consisted of a portion of liver, spleen and kidney; these had been preserved in a quinine bottle with pepsin. The analysis in both portions was carried on in a similar way, but separately, and for sake of brevity can be stated as one analysis. The following is a record of the same:

The organic matter of solid and liquid was first boiled in a test tube, *then filtered.*

Liquid portion: A current of sulphuretted hydrogen was passed through for two hours, made by the action of sulphuric acid on sulphide of iron in a retort, and passed over by tube, Pb O, HS = P b S + H O. Filtered and digested with nitric acid. Pb. S + N O_5 = PbO. NO_5 + S. Solution thus made, plus iodide potassium = yellow precipitate, PbO, NO_5 + KI= Pb I + KO. NO_5.

Solution plus chromate potassium=yellow precipitate, Pb O

$NO_5 + K\,O.\,Cr\,O_3 = PbO.\,Cr\,O_3 + KO.\,NO_5$. This was soluble in hydrate of potassium.

The solid portion that remained upon the first filtration was then examined. Mixture was evaporated to dryness, and the dry mass incinerated in a porcelain evaporating dish on a sand bath. This was boiled with water, filtered, and digested with nitric acid.

This solution the gas was passed through, as in the case of the liquid portion, and then put through the same tests, with like results. By this process, twice repeated, the analysis was made of the liver four different times, twice by *filtrates*, and twice by *incineration* and *digestion* of the solid matter.

Each analysis proved the presence of *lead* in the system, and the repeated processes confirm the fact.

I am, respectfully,

E. H. HAZEN, M. D., *Member of Committee.*

CHEMICAL ANALYSIS, BY DR. CANTWELL.

DR. BAKER: *Sir*—As a member of the Committee (of which you are chairman) for the purpose of investigating the cause of the death of the late Dr. Witherwax, I submit to you the following synopsis of a chemical analysis which I was requested to make. At the time of the post-mortem examination Dr. French gave me a small portion of the liver, spleen and kidney. They were wrapped all together in a white cotton cloth. The same day I commenced my analysis; first of the liver, then of the kidney. As the analysis of each was the same, and for the sake of brevity, I will give the result of each together, so far as practicable.

ANALYSIS.

I took about an ounce of the organic matter (the liver), and cut it into small portions, then put it into a porcelain dish, then poured over it a drachm and a half of hydrochloric acid, then added enough water to make a thin paste. The dish was then placed over a sand bath for one hour and a half. In the meantime a few grains of chlorate of potassa were dropped in at intervals of fifteen minutes. At the expiration of said time, the mass was of a white homogeneous character, the odor of chlorine had all passed off. I then added some more water, and set it on the sand bath to cool. After cooling it was passed through a filter,

leaving a *filtrate* and *residue.* The filtrate was then taken and had sulphuretted hydrogen gas passed into it for twelve hours, which gave the following results:

Filtrate + HS for 12 hours=*PbS* + HCl, precipitate dark.
PbS. + heat & HO. NO_5=PbO. NO_5 + HS, precipitate soluble.
PbO. NO_5 + HO. SO_3=*PbO. SO_3* + HO. NO_5, precipitate white.
PbO. NO + KO. HO=*PbO. HO* + KO. NO_5, precipitate.
PbO. NO_5 + KI = *PbI* + HO. NO_5, precipitate yellow.
PbO. NO_5 + KO_2 Cr O_3 = *PbO_2 Cr O_2* + $KONO_5$, precipitate yellow.

The above were all slight, but the two latter were best. Fearing the lead was not all out of the first filtrate, I applied the same tests, and in every case had faint indications of lead. Doing so with both liver and kidney, caused me to make four examinations in the wet analysis.

BLOW PIPE ANALYSIS.

I took the *residue*, and mixed it with carbonate of soda, then placed it on a piece of charcoal, which was put under the inner blow-pipe flame. The liver gave merely a slight yellow incrustation, not very satisfactory. Afterwards tried the residue from the kidney in the same manner, from which I not only procured the yellow incrustation, but two small granules. One of the granules was placed under the microscope by Dr. Hazen and myself; we then discovered a crystal which resembled *acetate of lead.* This makes in all six analyses that I have made, and, from the many and varied results which I have witnessed in making these examinations, I can say, with little hesitancy, that there was a great deal of *lead* in his system. I therefore think that it was one of the principal causes of his death.

With these remarks I most respectfully submit this report to you for your consideration.

ALONZO W. CANTWELL.

Grisolle, who wrote an essay upon lead colic some years since, has given a very correct account of this disease, illustrating the many and variable effects of this metal. He says, "Of the various accidents which result from the absorption of lead and its *different preparations* into the system, those which belong to the digestive apparatus are the most frequent."

The question now naturally arises as to the manner in which poisoning could take place in using these hair lotions. Authors admit three ways by which lead may be introduced into the system, viz.: by absorption through the skin; by inhalation through the pulmonary organs or lungs; and through the gastro-intestinal organs by direct exhibition, or swallowing. We conclude that through the first two methods the poisonous effects of the hair restorers are manifested. The use of these liquids affords not only the opportunity for absorption from the scalp surface, but also creates an atmosphere loaded with the vapor of lead and sulphur, which is constantly inhaled by the individuals in the habit of using them.

In conclusion we would say, that in many respects it might be better that the old assertion were true among mankind, that, "We cannot turn one hair black or white," or that we should answer negatively the question, "Can the leopard change his spots?"

ART. VIII.—*Case of Purulent Pleurisy.* By JOHN W. H. BAKER, M.D., Davenport, Iowa. Read before the Iowa State Medical Society, Feb 24th, 1870.

We seldom find more interesting cases than those frequently occurring and usually denominated pleuritic effusions. These cases most commonly arise from acute pleuritis, or the associated disease, pleuro-pneumonitis, and such cases are rendered more positively interesting in tracing its progress either to recovery or death. In this connection I report the following case:

On the 4th day of September last, I was called to visit Otto S——, a young man of a robust, healthy habit, about 21 years of age. He had always enjoyed uninterrupted good health. Had been accustomed to go on hunting excursions upon the river, and about the sloughs and islands below the city. Had been on one of these hunting excursions a few days previously, and became wet and cold. He thus remained out upon one of the islands over night, sleeping in an exposed open space. On his return he was aware that he had taken cold, and the result was an attack of

most violent pain on the left side, in the cardiac region. When I arrived I found him suffering with sharp, cutting and lancinating pains, with short checked respiratory efforts, marked febrile excitement. The pains were much increased on effort to get a full inspiration. Skin was dry and hot. Tongue moderately coated. Pulse full, frequent and incompressible. Associated with these symptoms were intense thirst and torpor of the bowels. Put the patient under treatment; gave active cathartics, applied counter-irritants and heat; gave an opiate after the action of the cathartics, and endeavored to promote perspiration. Inflammatory symptoms were quite persistent, and the pain and prostration of the most marked character, indicative of acute pleurisy for the period of ten days or thereabout. After the subsidence of the severe pains, the thoracic walls upon the left side, in the region of the pain, showed a bulging or prominence over the cardiac region. Upon percussion, the locality gave an extended dull sound, while auscultation evinced a masked sound of the heart. The action of the heart was violent; so much so as to create a cardiac tremor over the whole left side. Respiration was impeded on the left, and in all the lower lobe was destitute of the ordinary vesicular murmur. Upon succussion, the manifest presence of liquid could not only be felt but was easily heard, even by persons sitting by the side of the bed, giving the sound of liquid and air confined in the same cavity. Counter-irritants and absorbent remedies, cathartic and diuretic medicines, were tried for the next ten days, when the increased prominence of the left side, and the marked protrusion between the ribs, indicated the necessity of puncture. During all this time the patient had suffered intensely, being greatly emaciated, and presenting an almost hopeless condition.

On the 24th of September, twenty days from the commencement of the attack, being fully convinced that the only hope for the patient (and that a small one) was by puncture, I called in counsel, and, as the result of advice, punctured at a point two inches in a direct line below the left nipple, that point indicating a thinning of the thoracic walls, and an approach of liquid contents to the surface. With a sharp-pointed bistoury, the incision was made through the skin and cellular substance, which opened directly into the cavity containing air and purulent matter. The patient lying directly on his back at the time of puncture, rendered the

first issue of material from the cavity necessarily air or gas of the most fetid odor. After the air had escaped, as from a compressed sac, with a hissing noise, the prominence was somewhat diminished, and we turned the patient partly on his left side, when a very consistent and terribly odious pus was caused to flow from the punctured orifice; occasionally the incision would become blocked by thickened masses of shreddy pus, when by means of the probe they would be broken down, and the flow established again. About three pounds of matter were in this way removed. We then dressed the wound with plaster and compress, and the patient acknowledged that he felt some relief. For the next ten or twelve days we removed each day from a half pound to one or two pounds of pus, being careful that the opening was as well guarded from the entrance of air as possible. About this time, finding the issue of matter to be about the same from day to day, and the evidence of a large amount of purulent matter still retained in the thoracic cavity, and having acted on the cautious plan of evacuating only a portion of the contents at each time, we concluded to try a means of more completely emptying the cavity, and for this purpose arranged a medium sized catheter, so as to form, with some rubber tubing, a syphon. To the rubber tube we attached a rubber suction ball. With this apparatus we introduced the catheter end into the thoracic cavity, passing it some six inches into the liquid contents, then with the air expelled from the suction ball, we attached it to the rubber end, which thus exhausting the tube, caused the purulent matter to flow in a continuous stream. The tube occasionally blocking up, with the ball we would force the flow again. In this way, at this time, we removed five pounds of thick offensive pus from the thoracic cavity. This operation was repeated daily, obtaining on one other day six pounds, and subsequently from half a pound to a pound of matter each day. We made memoranda of the amount removed until it amounted to over thirty pounds: meanwhile we were giving the patient Iron and tonic remedies, and such treatment as the symptoms from time to time indicated, the case necessarily requiring a variable treatment. For instance, during a certain stage of this sickness, the patient was attacked with dysentery, and required active remedies to control the dysenteric stools, which were frequent, bloody and painful. At

another time, he had indications of a positive pneumonitis, and required remedies for the complication. But, aside from these complications, the general indications were for a tonic course, with nutritious diet, and anything tending to support the strength and nourish and support the waste of tissue, so actively in progress, evidenced in the discharge of such large quantities of purulent matter.

Continuing our efforts to exhaust this fountain of pus, we were considerably troubled with the blocking up of our tube, and finally tried a variety of means, such as the attachment of an air pump or stomach pump, to force the obstructing mass through the tube, but without success. The quantity continued about the same (about eight ounces) each day. We then obtained a very strong ball from an old fashioned ball breast pump, and in the place of our smaller and weaker suction ball, used this. Still our tube would occasionally block up or become obstructed. We finally concluded to withdraw the tube whenever it became so obstructed, and by so doing we discovered that the obstructing matter consisted of floating masses of shreddy, fibrinous tissue, which being caught in the eye or opening of the catheter, could be brought to the orifice or puncture, when, by great care, they were seized with a small pair of spring forceps, and carefully removed. In this way, on one occasion, we removed about eight ounces of this membranous floating material. After the removal of this quantity of shreds, the character of the matter removed was less offensive, and very gradually lessened in quantity. The cavity was evidently diminishing in its capacity, for we now began the use of injections of a solution of carbolic acid. Our first injections were of about one pound of liquid of the strength of ten grains of acid to the ounce. We injected with this fluid about once each week, gradually increasing the strength, obtaining good evidence of amendment after each injection. A gradual improvement of the respiration occurred, keeping pace with the lessening of the discharge. The superior portion of the left lung became more active, the right lung quieting down to a more natural action, having previously performed almost the whole function of both lungs.

The amount of matter drawn from this cavity lessened from time to time, until after five months and about ten days the forma-

tion of matter wholly ceased. The general health and fleshy condition of this patient has been fully re-established. He is now able to do moderate work, and looks robust.

This case is interesting, from the severe and very marked symptoms in the commencement of an acute pleurisy; the rapid progress made to a stage in which effusion took place; the large amount of effusion, and the peculiar prominence of the thoracic walls; the approach of the liquid contents toward the surface and final presentment at the peculiar point where opened. Finally, it is interesting in the extremely large amount (over fifty pounds) of thick cream-like pus and shreddy formations which were removed; and what is most remarkable is, that the patient should have recovered from a disease so generally fatal in its results.

We claim that the method, together with the continued and persevering removal of the purulent accumulation, contributed largely to bring about so desirable a result, while we acknowledge a strong, robust and healthy constitution as a helping handmaid in this case.

ART. IX.—*Double Vagina.* By J. C. DAVIS, M.D., Fort Atkinson, Jefferson county, Wis.

Miss E., of Rock county, in this State, aged twenty-one years, of medium size, and apparently of a good constitution, called at my office to consult me in regard to her health, which she stated had been failing for the past two years, in consequence of having taken cold during menstruation, which brought on prolapsus uteri, as she had been informed. But upon examination per vaginam, I found it to be retroversion of the uterus; and when attempting to replace the same, I discovered a septum commencing at the mesial line, (in a line from right to left,) attached to meatus urinarius, and extending laterally and posteriorly two-thirds of the way to the fourchette, and within the vulva and hymen.

The external genital organs are well developed. The mons veneris well covered with hair. The labia majora and minora are perfect

Its internal attachment commenced within that of vagina to uterus, and extended half around to anterior and posterior mesial line, thence by its edges to anterior and posterior vaginal walls, leaving the os uteri in the right vagina, (or vagina proper,) which is of normal size, shape and capacity.

Original Translations.

ARTICLE I. — *Experimental Physiology.* Experimental Investigations relative to the Directions of Rotary Movements due to Unilateral Encephalic Lesions. By Dr. J. L. PREVOST, Member of the Biological Society.

OF THE VARIOUS ROTARY MOVEMENTS OBSERVED IN ANIMALS.

Since Magendie directed the attention of physiologists to the phenomena of rotation which are manifested after wounds of one of the middle cerebellar peduncles, numerous experimenters have investigated these phenomena, have described them, and have endeavored to interpret them in various modes.

A consideration of these investigations will convince one that physiologists are far from agreeing upon the varieties of movements induced by lesion of this or that portion of the encephalon.

Before analyzing these different varieties of movements, I will first indicate one cause of the confusion and obscurity which I have observed, and which must have embarrassed all who like myself have been engaged in investigating this subject: I refer to the determination of the direction of the movements induced. I will explain:

The different kinds of circular* movements observed in animals may be arranged in two groups: *the circular movement* (mouvement de mènage)† and the *gyratory* movement or *rotation upon*

* I shall not examine here the movements not included in the circular type, and particularly those which result from wounding the semi-circular canals of the ear as Flourens taught.

† The circular movement (mouvement de mènage) upon a short radius may indeed be compared to the circular movement performed around the

an axis, all other movements being only varieties of these two groups. It might even be added that these two groups are themselves but derivatives one from the other, for as Brown-Sequard has remarked:*

"Rolling is, generally, only an exaggeration of turning (or the circular movement), that is to say, when there is diminution of the intensity of the cause which induced the rolling, this same cause induces turning."

It is easy to comprehend the meaning of an observer who, in speaking of the circular movement, says that this movement is made from left to right, or from right to left; the reader, indeed, placing himself in the centre of the circle described by the animal, appreciates perfectly the impression of the observer.

But the same cannot be said, when the rolling movement is considered. When a physiologist, in describing an experiment, says that the animal turns upon its axis from right to left, that it rolls from right to left, that it rolls from the side of the lesion or from opposite to the lesion, the reader is much embarrassed, and may interpret the phenomena in different modes. I am even tempted to believe that discussions have arisen from misunderstandings occurring between experimenters holding essentially the same opinion.

The mechanician or the physicist who describes the rotatory movement of a cylinder, first takes the precaution to describe the position which he holds in relation to this cylinder. If he wishes to describe the direction in which the cylinder turns upon its axis, the physicist would do it by reference to himself, the observer, by supposing himself extended in the axis of the cylinder according to a determinate direction. If the cylinder rolls upon the ground, the physicist would say that the cylinder rolled from one side or another in reference to an observer placed in this or that position.

Physiologists have completely neglected this precaution; hence

posterior extremity of the animal, and which has been described by MM. Brown-Sequard and Schiff. See *Compte rendu Soc. Biol.* 1853, p. 167, and *Journ. de Physiolog.*, t. V.; Schiff, *Physiologie des Menschen.* Lahr, 1859, p. 348.

* *Note sur les mouvements rotatoires. Jour. de Phys. du Dr. Brown-Séquard*, 1863, t. III, p. 721.

the obscurity which I have indicated with so much the more propriety, since it appears that the terms *rolling* and *turning* have frequently been employed interchangeably.

Some observers appear to have described the movement substituting themselves in the place of the animal subjected to experiment; others, on the contrary, have described under the name *rolling*, the changes of position of an animal upon the ground, in relation to an observer looking toward the posterior extremity of the animal. This last mode of observation appears to have been most frequently employed, although the place occupied by the observer in relation to the animal under experiment is undetermined.

It is thus that M. Vulpian regards the movement of rotation when he makes the remark that the rolling is made in the inverse direction to the circular movement (mouvement de mènage) or turning.*

This difference in the direction of the two movements originates from this cause solely, that in rolling a new factor—the friction of the ground—is added, a point upon which too little stress has been laid, in my opinion. Thus when the experiments are performed upon animals whose mode of progression is swimming, there is often exhibited, as M. Vulpian has observed in the tadpole of the frog,† a movement representing a sort of spiral. What I assert will be better understood if it is remembered that the movements of rotation are made from the side indicated by the direction of the eyes; not that I would make of this deviation the cause of the rotation, an opinion advanced by Henle.

It is sufficient to substitute oneself for the animal under experiment in order to fully appreciate the phenomena. If, indeed, I effect a deviation of my two eyeballs from the right side, I should turn circularly (en mènage) from left to right.

If I am placed upon my feet, I would turn around my axis, always from left to right, in effecting a spinning movement

* Leçons sur le Phys. du Système Nerveux, p. 586.

† Vulpian mouvement de rotation observés chez les telards de grenouille à la suite des lesions pratiquis sur le centre nerveux,—Examen critique des deverses explication proposés au sujet des mouvements que l'on determine ainsi (Mem. de la Societe de Biologie, 1861.)

(mouvement de toupie).* If I am extended upon the ground I would continue to turn upon my axis from left to right, but encountering the resistance of the ground, I should displace myself in consequence of the friction; and for an observer placed at my feet and observing me rolling. I *should roll from right to left*, whilst continuing to turn myself upon my axis from left to right.

Rotatory movements produced by lesion of a cerebral hemisphere.

The rotary movements induced by lesion of one of the cerebral hemispheres, have been much less studied by physiologists than those which depend upon unilateral lesions of the isthmus of the encephalon; this is readily comprehended, for these movements are very distinct only in the higher animals, and are generally less energetic than those which are induced by lateral lesions of the isthmus.

The rotatory movements resulting from lesion of one cerebral hemisphere are all comprised in the class of circular movements (mouvement de mènage) the circle described being greater or less. But is this circular movement executed always in the same direction? Upon this point physiologists are not agreed.

M. Longet,† relying especially upon experiments made upon rabbits, admits, as does M. Lafargue,‡ that in the case of the lesion of the thalamus opticus, rotation is made from the side opposite to the lesion; from the stronger towards the weaker side, as in the case of the lesion of one of the cerebral peduncles. Flourens, on the contrary, by wounding the optic thalamus, found that the rotation was made from the wounded side; whilst a rather deep injury of one of the tubercula bigemina, effected upon a bird, occasioned rotation from the side opposite to the injury, and in reptiles from the side of the injury.

M. Schiff§ sought to explain these variations of authors by

* This expression has been very happily employed by M. Mesnet. See *Physiol. Path. des mouvements circulaires*, by M. Mesnet; *Arch. de Med.*, 1861, t. I.

† Longet, *Traité de Physiologie*, 1850; t. II, p. 408 et 409. See also Physiol. du Système Nerveux.

‡ Lafargue. Thèse de Paris, 1838.

§ Schiff, *loc. cit.*

showing that the direction of the circular movement varies according to the portion of the optic thalamus which was destroyed. After these experiments upon the higher vertebrata (rabbits), he concludes that the destruction of the anterior three-fourths of the optic thalamus determines circular movements toward the wounded side, whilst destruction of the posterior fourth induces movements towards the side opposite to that of the injury.

M. Brown-Sequard * has subsequently confirmed the opinions expressed by M. Schiff.

The variations of authors have concerned especially the interpretations of injuries which approximate the isthmus; now, in wounding the posterior portion of the optic thalamus, it is possible to involve the peduncles and thus complicate the result. I believe that I can sustain by evidence that at least amongst mammiferæ, the highest in the series, and hence approximating most nearly to man, the circular movement takes place invariably from the side of the injured hemisphere; this opinion has also been admitted by M. Mesnet.†

The proofs which I can furnish are the following:

I shall cite first, four experiments of MM. Philipeaux and Vulpian, which are strongly confirmatory in this direction: "On the 26th of June, lesions of the brain proper were effected upon four dogs, after having removed a disk of the cranium by the aid of the trephine. Upon two of these, a transverse incision of the left cerebral hemisphere was made, care being taken to make the incision as much as possible in front of the corpus-striatum. From a third dog a portion of the left hemisphere, a little more than a cubic centimetre, was extirpated through an opening made in the cranium; and lastly, the left cerebral hemisphere of the fourth animal was *ploughed up* by means of a small iron blade.

"All these dogs, subsequently to the operation, exhibited a slight degree of hemiplegia of the right side, more marked in the anterior than in the posterior paw, and they all turned in circles (en ménage) from right to left, but slowly as they were forced to walk. In cases of this kind the hemiplegia was clearly perceptible although it was slight, for the animals yielded often in the

* Brown-Sequard. *Note sur les mouvements rotatoires.* Journal de Physiologie, 1860, t. III.

† Arch. de Med. *loc. cit.*

limbs of the affected side: these limbs would sometimes even bend under the animal which then fell upon the corresponding side."

These facts furnish valuable data in veterinary medicine. The "sturdy" in sheep furnishes us experiments ready made, in which the deep layers of a hemisphere have been injured, while the superficial are intact.

But veterinarians in their observations do not agree about the direction of the circular movements described by the diseased sheep, and the most opposite opinions have been advanced upon this point.

Attracted by these divergencies of opinion, M. Reynal has prepared an abstract of sixty observations of "sturdy" made with great care, and followed by autopsies; of these he has made a most interesting memoir, in which he compares the direction of the movement executed by the sheep with the position occupied by the entozoon in the brain.

From these numerous facts M. Reynal draws the following conclusions:

"We have observed sixty sheep affected by 'sturdy,' and have taken, or caused to be taken, careful notes of the symptoms and morbid lesions. Upon more than half, we have observed that the sheep turned from the side upon which was the worm, whether this be at a point upon the surface of the brain, or whether it be found in the thickness of the layers which form the superior plane of this organ. We have constantly perceived the animals execute circular movements from the side where the cænurus had established its place of abode. The same was the case when the cænurus was contained in the large ventricles and leaving intact the parts upon which it rested; it impressed no modification upon the cerebral substance other than the production of a thinning of the layers which form the floor of these cavities.

"The sheep turned, on the contrary, the most frequently from the opposite side where the destructive work of the cænurus had involved the deepest layers of the brain, or produced changes in the form of the corpora-striata, the cornua-ammonis, the optic-tha lamior the cerebral triangle. However, when these last lesions exist, the animals do not always turn; often, without following a straight line, they walk forward deviating as much to the right as

to the left; locomotion is slow, limited and tottering. It is even usual in this condition to see symptoms of general paralysis, with considerable diminution of sensibility. These last symptoms, somewhat nearly, may be observed, when the cænurus exist in the cerebellum, or when this last undergoes compression, by reason of the space which the worm occupies in the ventricle of the brain. Only there is greater feebleness of movement; they are executed in an automatic manner, the sheep falls frequently, the least obstacle occasioning its fall."

It may be seen, from this passage that the revolution is executed from the side opposite to the seat of the cænurus, only when the deep-seated portions approximating to the encephalic isthmus are found more or less attacked. The results are then very variable, and the same homogeneity in the symptoms is no longer observed.

I shall now present the results with which my personal experiments have supplied me.

The cerebral hemispheres assume, as is well known, a degree of importance, relative to the execution of voluntary movements, so much the greater as the subject is placed higher in the scale of animal life.

The isthmus of the encephalon and its dependencies, on the contrary, acquires, relative to the execution of movements, importance greater in relation to the brain, as it descends the animal scale. This is a well known fact which has been very clearly elucidated by M. Vulpian, in his *Lecons sur le Système Nerveux* (p. 667 et suiv.)

A lesion extending from a cerebral lobe, its removal even will not occasion in the frog any trace of paralysis; in the bird there will be no hemiplegia. In the mammal, on the contrary, hemiplegia will appear, and will become more and more decided in proportion as the subject under consideration may be higher in the mammalian series. Obscure in the rabbit, it will become evident in the sheep, the dog, etc.

But if the hemiplegia produced in the dog, by lesion of a hemisphere, be compared to that which is observed in the same case in man, the difference in the intensity of the symptoms will be striking. In man, a very circumscribed lesion of a cerebral hemisphere, located in the corpus-striatum, for example, will pro-

duce hemiplegia of the opposite side, with complete resolution and flaccidity of the limbs. The removal of an entire cerebral hemisphere in the dog will, on the contrary, occasion only a very partial hemiplegia.

There is a fact which must not be forgotten in the examination of rotary movements produced by lesions of the cerebral hemispheres. By making an extensive lesion of a cerebral lobe in a frog, or by the removal of the entire lobe, it is rare to observe them, unless some injury be inflicted on the tubercula bigemina, so voluminous in this animal in comparison with the hemispheres; it is rare, I say, to observe a movement which represents the rotatory movement. I have, however, believed that I have sometimes remarked immediately after the injury, a tendency to leap from the side of the injury, a sort of outline of a rotary movement; but there was in it nothing comparable to the phenomena which are produced when the isthmus is injured in the frog, facts which I shall examine hereafter.

In the mammiferæ, the results are very different. Thanks to the kindness of M. Vulpian, I have been enabled to make in the laboratory of pathological anatomy of the Faculty of Medicine a certain number of experiments upon dogs and rabbits.

These experiments given below, together with the aforesaid facts, demonstrate that lesions of a hemisphere occasion a rotary movement from the side of the injury, and that this movement, better marked in the dog than in the rabbit, probably on account of the predominance of the action of the brain, becomes more manifest when the deep layers of the hemisphere (corpus striatum, optic-thalami, and even the cerebral peduncles) are injured.

In the course of my experiments I have not had the opportunity to verify the opinion of M. Schiff relative to the direction of rotation from the side opposite to the lesion, then from the wounding of the superior portion of the optic thalamus, for I have never produced an injury limited to this level. The rotation produced in my experiments by injury of the optic-thalami has always taken place from the side of the injury. I will say the same of the lesion of the cerebral peduncle in experiment I.

I place at the head of these experiments the observation upon a dog which I presented to the Biological Society, and which is remarkable in consequence of the recovery of the animal, and of

the persistence of the rotary movements. There will be found in this experiment several data important in regard to the theory of movements of rotation.

DEEP WOUND OF THE RIGHT HEMISPHERE, TRAVERSING THE RIGHT CEREBRAL PEDUNCLE; ROTATION OF THE HEAD AND OF THE EYES FROM THE RIGHT SIDE; CIRCULAR MOVEMENT FROM LEFT TO RIGHT, REMARKABLE FOR ITS PERSISTENCE; LEFT HEMIPLEGIA.

Exp. I. An adult bitch of medium size. The 24th of December, 1867, I perforated with a gimlet, having a diameter of two or three millimetres, the cranial vault of the right side, and buried the instrument deeply into the brain.

The animal described immediately a circular movement from left to right; he inflected the head slightly to the left side, directing the vertex to that side, so that the left eye should be upon a lower plane than the right; he turned, on the contrary, the muzzle to the side of the right shoulder.

The two eyeballs were both directed to the right, the left iris being carried into the internal palpebral angle, the right iris into the external palpebral angle, the left sclerotic visible, on the contrary, in the external angle, and the right in the internal angle of the palpebral openings. The right pupil was very much dilated, the left contracted; there was nystagmus. In describing the circle, the dog bent himself into an arc with its concavity directed towards the right. A decided left hemiplegia was observed, especially marked in the anterior limb, which often yields and shrinks under the animal. In walking, the dog frequently places his left fore paw upon its dorsal face, then the limb doubles up under him, and he falls on his right side.

Sensibility is diminished in the paw of the left side.

During the following days the dog remains downcast and sick, exhibiting the same symptoms; but he is not slow to recover his appetite and spirits, in brief, to recover completely from the general symptoms due to the operation, as may be very well observed; and it is the state which he then presents that I am about to describe in detail.

The dog is intelligent, and recognizes me very well, and each day when I come, before seeing me, he detects my voice and even

my step, and manifests his joy by cries, for I am in the habit of feeding him myself.

The paralysis of the left side has diminished, but is however still manifest, especially in the anterior limb, which yields under the animal, especially when he is roughly pushed. The disturbances of mobility have never been very apparent in the posterior limb.

Sensibility is diminished in the two limbs of the left side, for it is necessary to pinch the left paws much more vigorously than the right to induce the animal to withdraw them, or manifest pain. The head is habitually slightly inflected to the left, the vertex being directed to the left side, the left eye nearer to the earth than the right; the muzzle, on the contrary, is turned to the right side, but there is no stiffness in the neck, the head may be turned as well to the left as to the right. The animal, however, of his own accord, only turns it slightly to the left side, and his body is generally bent into a slight curve, the concavity being directed to the right side.

Editor's Book Table.

Fourth Annual Report of the Metropolitan Board of Health of the State of New York. 1869. New York: D. Appleton & Company, 90, 92 and 94 Grand street. 1869. Pp. 564.

The present volume is, we should say, practically the most valuable one of the series indicated.

The Sanitary Board, under Superintendent Elisha Harris, M.D., assisted by Moreau Morris, M.D. and R. Cresson Stiles, M.D. together with a corps of ten medical inspectors, have accomplished an amount of work of which both they and the profession represented have reason to be proud. It is possible that New York City is, as the newspapers assert, badly governed, but the book before us proves that its Sanitary Board is worthy of the highest praise. A student of hygiene can scarcely find elsewhere a more

complete resumè of what sanitary science demands and is capable of affording.

Some idea of the magnitude of their work may be gathered from the fact that the number of reports for the year were 28,321. This included, in addition to the ordinary routine of duties, special investigations having for their object the thorough reconstruction of tenement houses, the closure of uninhabitable cellars, the protection of the city against small pox, by systematic vaccination, the inspection of immigrant vessels, the suppression of the sale of dangerous kerosene, the analysis of the milks brought to market and sold to families, the examination of the flour and bread used by the poor, the analysis of the air of public halls, schools, churches, etc., etc., microscopic and other observations on the water in use, plans for flushing the streets and sewers with salt water, for regulating the manufacture of gas, for improved methods of ventilation, etc., etc.

The vital statistics are presented by Superintendent Harris in a very clear and satisfactory manner, and, by means of a folding leaf, a diagram presents the general result most impressively.

We wish books of this character were more generally sought after by the profession, even though the money they cost had to be taken from investments in "Materia Medicas" and badly tasting and smelling drugs. But the time is coming rapidly when the laws of life and health will command their appropriate study.

Superstition and Force. Essays on the Wager of Law—the Wager of Battle—The Ordeal—Torture. By HENRY C. LEA. Second Edition, revised. Philadelphia: Henry C. Lea. 1870. Pp. 480.

The name of Lea—father and son—has been familiar to all medical book readers of this and the preceding generation. The great Philadelphia publishing house, by sagacity and tact in the choice of material for publication, by liberal arrangements with authors and honorable dealings with the public, have commanded success as well as high business distinction. But, perhaps, it is not generally known, to the profession, that the present representative of the old house, Henry C. Lea, has by several of his own productions manifested a variety and exactness of acquirement, a

scholarly culture and philosophical power, which have rarely been equaled and still more rarely surpassed by any American author.

The subjects discussed in the present work are sufficiently set forth in the title. In one sense they are not medical, but in a higher sense they fall within the physician's domain. All influences that sway human minds, co-operate with the physical influences that move the atoms of the body. The grandest sphere of the physician's art is that which comprehends his power of influencing the corporeal changes by the high powers of the mind. Even educated medical men are too apt to neglect this grandest therapeutic energy, leaving it to be prostituted to the base uses of pitiful exclusivists and charlatans. When the surly English physician advised the medical student to read Don Quixotte as the best means of preparing himself for practice, we are not so sure but he intended a useful lesson. We are *quite sure* that Don Quixotte describes certain peculiarities of insanity much more successfully than does a recent essay specially devoted to the topic.

It is unfortunate that Psychological Medicine, so called, is too often taught merely as a speculative abstraction, or else as a means of conveyance of the grossest materialism tricked out in scientific phraseology. The best study of Psychology is afforded in the careful perusal of the works of painstaking, conscientious and impartial chroniclers of the operations of the human mind in times gone by, direct observation of mental actions now, both by personal association and reading, and then correction of all judgment by common sense. The practitioner or student who thinks he finds all of medical science in the technical anatomies, physiologies, materia medicas, or even cyclopædic works on "principles and practice," is as much at fault as one who expects to master metaphysics and the moral law by the scalpel and microscope. Physical forces correlate, but they correlate in a proportion expressed by numbers. Who will give us the numeral equivalents for Hamlet or—Dan. McFarland?

But, *revenons a nos moutons*—we know of no single work which contains, in so small a compass, so much illustrative of the strangest operations of the human mind. Foot notes give the authority for each statement, showing vast research and wonderful

industry. We advise our confreres to read this book and ponder its teachings.

[NOTE.—All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN & COOKE, whose catalogue of Medical Books will be sent to any address upon request.

Pamphlets.

As regards Protoplasm, in relation to Professor Huxley's Essay on the Physical Basis of Life. By JAMES HUTCHINSON STIRLING, F. R. C. S., LL.D., Edin. New Haven, Conn.: Charles C. Chatfield & Co. 1870. Pp. 71. For sale by S. C. Griggs & Co., Chicago. Price, 25 cents.

This is No. 3 of the University Series, the two former of which have been noticed (*vide* p. 230). It is one of the best of the numerous answers to Prof. Huxley's "premature generalizations." The publishers of this cheap series of valuable lectures and essays are conferring a great favor on the reading public. We notice that they are receiving numerous orders in advance of the publication or even announcement of forthcoming papers. This confidence is fully merited.

The Bromides; their Physiological Effects and Therapeutical Uses. By Z. C. MCELROY, M.D., Zanesville, Ohio, President of the Muskingum County Medical Society. [Reprinted from the New York Med. Jour., July, 1870.] New York: D. Appleton & Co. 1870. Pp. 26.

This paper, characterized by the careful study and close thought of its author, well known to our readers, concludes with the following propositions, which, aside from the evidences he presents, from our personal observations we are prepared fully to indorse:

1. That, from the inherent relations of bromine, and the bromides, to the organic tissues and structures of the human body, their physiological and therapeutical effects must always be that of promoting destructive metamorphosis, or waste: first, of all matter below the normal dynamic condition; second, of tissue or structure of type or form foreign to the human body; and, lastly, of the normal tissues themselves.

2. That they are never indicated, therapeutically, except when there is matter or tissue in the body which it is desirable to eliminate from it.

3. That they possess neither inherited nor acquired anæsthetic properties, nor hypnotic effects, as chloroform, ether, opium, or cannabis indica, which act by retarding destructive metamorphosis; but may, by promoting destructive metamorphosis of retained effete matter, be followed indirectly by anæsthetic or hypnotic effects, in the same way as the evacuation of the bladder of retained urine by the catheter.

4. That they are contra-indicated where nutrition is much impaired, or the rate of tissue-waste more than natural, and where structural changes, or loss of form, by substituting tissue of lower for that of higher organization, have impaired the dynamic integrity of the nerve-masses, as in locomotor ataxy, insanity, spinal paresis, etc.

5. That they are only indicated where the organic processes of life are restrained or interfered with, by adventitious circumstances, to resume their normal working on the removal of the restraint.

6. That their effects on persons living luxuriously, and leading inactive or sedentary lives, and on all in whom tissue-metamorphosis is sluggishly performed, is to increase the rate of waste, and to compensate, to some extent, for the physical exercise necessary to maintain the normal velocity of tissue-waste or changes.

The Treatment of Croup. By FORDYCE BARKER, M.D., Clin. Prof. of Midwifery and Dis. of Women in Bellevue Hospital, etc., etc. Reprinted from Am. Jour. of Obstetrics and Dis. of Women and Children; with remarks by one of the Editors, A. JACOBI, M.D., Clin. Prof. of Dis. of Children in Coll. of Phys. and Surgeons, N. Y. New York: W. A. Townshend & Adams, Publishers.

The names of Professors Barker and Jacobi are well known to the profession, and we wish that both they and those that may follow them in the publication of monographs, would forego cumbering title pages with voluminous explanations of the *status*. Recently in the JOURNAL we noticed Dr. Lente's positive assurance that pseudo-membranous croup was utterly shorn of its terrors by teaspoonful doses of calomel [SEDATIVE!]. But Professors Barker and Jacobi, singularly enough, deem it necessary to say something more—hence this pamphlet. Attention is especially called to the diagnosis. Prof. Barker objects to the term "false croup," and cannot give his unqualified assent to the "spasmodic laryngitis," recognized by Prof. Jacobi and most of the authorities. He thinks "the difference between false and true croup is

essentially a question of intensity and extent of tissue involved, and there is no other radical difference between them," and that the terms false and true croup should be abandoned, as they convey a false impression. The croup of diphtheria he regards as an altogether distinct and specific disease.

Prof. B. relies almost wholly upon three or five grain doses, according to the age of the child, of turpeth mineral, repeated in fifteen minutes, unless vomiting occurs. So confident is he of its efficiency, that it is the only medicine which he has constantly carried in his pocket for twenty-eight years, and he has no doubt that at this moment a hundred families in New York city have three-grain powders of the turpeth mineral, carefully labeled "croup powders." He thinks the powders do no harm, and if he finds on the morning visit that the case proves to be one of laryngismus stridulus, he has only to seek for the cause of the reflex irritation, and remove it in the usual manner. Subsequent febrile symptoms he controls by measures of which veratrum viride is the central figure. The treatment recommended by Prof. Barker, like that of Dr. Lente, has the advantage of definiteness and simplicity. It would be exceedingly gratifying if the results proved as favorable in the hands of other practitioners as in those of the leading advocates.

The Third Annual Report of the Brainard Free Dispensary of the City of Chicago, for the year ending June 30, 1870. The Dispensary is located at the north-west corner of Jefferson and Randolph streets, in Rice & Jackson's Building.

This institution is supported by voluntary contributions, and under the management of its efficient corps of managers, surgeons and physicians, is rapidly proving a great public charity. $40 paid at once, or $10 annually, constitutes the donor a life member. $5 gives an annual membership. All persons interested in the welfare of the sick poor are cordially invited to visit the dispensary, and witness its practical workings. During the year ending June 1st, 1870, 3,036 different persons were treated at the dispensary; 2,687 visits were made at the homes of the sick; 987 vaccinations were performed.

We are gratified to notice that the Board of Supervisors of Cook county, recognizing the beneficial influence of the dispen-

sary, has appropriated $500 toward the current expenses of the year. The annual report contains a tabulated list of the diseases treated.

Woman's Medical College of the New York Infirmary, 128 *Second Avenue. Annual Catalogue and Announcement.*

This is a completely organized college, under the auspices of a large and influential board of trustees. The course of instruction as announced is complete and thorough, and the character of that instruction is guaranteed by the association of a board of examiners, consisting of Drs. Willard Parker, Isaac E. Taylor, Austin Flint, Stephen Smith, B. W. McReady, A. L. Loomis, and Samuel St. John.

If any of our fair friends are determined to undertake the essentially unfeminine business of practicing medicine, we most certainly recommend them first to thoroughly prepare themselves by attending this or some other as respectable college for women. They can get an announcement and all necessary information by addressing Dr. Emily Blackwell, Secretary of the Faculty, 128 Second Avenue, New York City.

Meanwhile, we warn them that the public do not want female practitioners who do not mingle some quackery with their craft. Astrology, in this city, takes better even than clairvoyance, and we have no doubt the same is true in New York.

A Medico-Legal Study of the Case of Daniel McFarland. By WILLIAM A. HAMMOND, M.D., Prof. Diseases of the Mind, etc., etc. Read before the Medico-Legal Society of the City of New York, May 12th, 1870. New York: D. Appleton & Company. Pp. 35.

A curious tractate, which the high professional respect we have always entertained for its author, forbids us from further noticing.

New York State Inebriate Asylum. A Circular by the Superintendent, D. G. DODGE, M.D., Binghampton, N. Y.

Containing principles of management, mode of gaining admission, rules for patients, etc. Copies can probably be obtained by addressing the superintendent as above.

Steiger's Literarischer Monatsbericht. (*Literary Monthly Record.*) May, 1870. Pp. 72. 12mo. New York: E. Steiger.

Steiger's Monatsbericht, commenced May, 1869, the only literary periodical published in the German language in the United States, enters upon its second volume, the first number of which has just been issued. Among its interesting contents will be found an article on the distinguished historian, Friedrich Kapp, who has just returned to Europe after twenty years' sojourn in this country, and whose works, some of which have been translated, are widely known,—an inquiry, "Which is the first German book printed in America?"—The "Poppenhusen Institute" in College Point, an institution generously founded and endowed by a German, for the advancement of knowledge and the improvement of the moral and social condition of the working classes,—an account of the "Growth of the Book and News Trade in the United States," with special reference to H. H. Bancroft & Co. and Sinclair Tousey,—besides many minor notes connected with schools and other matters of value to all literary men. We notice also the prospectus of a list to be compiled of all who have written German books and pamphlets in the United States; but the most striking feature of the present number of the Literary Monthly Record, in our opinion, as it will be in that of its numerous readers, is the announcement of a prize of eight hundred dollars offered for the best historical sketch of the intellectual vigor and progress of the German population in North America, more particularly exhibiting the influence of the German-American press on the development of American institutions. Such an announcement is calculated to awaken curiosity, and stimulate the exertions of many students and professional writers. Further particulars, we doubt not, will be eagerly sought after; and they can be found in the periodical itself, which may be obtained free by addressing Steiger's Literarischer Monatsbericht, 22 and 24 Frankfort Street, New York. It should be added here that the publisher continues to send his Monatsbericht free and prepaid to all who wish to have it.

The Little Corporal Magazine. Chicago: Sewell & Miller.

The July number of this beautiful juvenile comes to us greatly enlarged and improved, as well as finely illustrated. The wonderful growth of this young Napoleon of the juveniles has been as surprising as it is interesting. Its circulation has shot far ahead of that of any of its competitors. Its matter is entirely original and of a very high order. The freshness and vivacity of its pages cause the eyes of all our young people to sparkle. In its new, improved form it is one of the handsomest, as it is the cheapest, magazines we have ever seen. Childlike but not child*ish*, it re-

joices the hearts of both parents and children alike. This number begins a new volume; now is a good time to subscribe. One dollar a year; sample copy 12 cents.

Editorial.

The American System.

Our vivacious contemporary, the New York *Medical Gazette*, takes seriously to heart the lecture read him about his naughty *facetiæ*, by the venerable Mentor of the late Editorial convention. Incontinently repenting, he labors forthwith to bring forth "fruits meet for repentance." But the difficulty with him is ingrained, and although we have sometimes been saddened by his voluntary facetiousness, we are oppressed by inextinguishable laughter at his temporary excursion into, for him, "fresh fields and pastures new" of oracular solemnities of discourse.

The *Gazette* says that "the medical press of Great Britain and France is unanimous in urging the immediate reform of schemes of medical education which there are already as far superior to ours as Hyperion to a Satyr." Not only this, but he would almost agree to maintain contented silence for the rest of his lifetime if he could see as high a point attained here as that from which our British brethren start in their measures for further reform.

The remedy proposed by our newly reformed facetious contemporary, is in duplicate—one or two voluntarily endowed colleges so as to be nearly or quite independent of fees, thus enabled to look for quality rather than quantity, and to make their preliminary requirements as strict as some of them would now if they could; when there shall be one standard of examinations irrespective of the teaching corporations. Our contemporary is kind enough to admit that: "We have in our single degree a simpler and better system than the British one with its several qualifications to be obtained from different sources, and its multiplicity of titles which confuse even their *professors*." (?)

The present writer and responsible Editor of this *Journal*, respectfully propounds the following opinions, not begotten of the hot fancies of youth, but the product of matured conviction after a quarter of a century's experience as a medical teacher and general observer of the *status* of the profession:

1. The AMERICAN SYSTEM is superior to the British, French, Prussian or Chinese systems.

2. The right answers to three questions are superior in merit to the *required* wrong answers to forty.

3. That the average American student will receive and comprehend the facts brought before him in the medical college lecture room, as well as the average British, French, Prussian or Chinese student.

4. That anatomy is as thoroughly taught in the majority of American medical colleges, as in any European or Chinese school.

5. That when Prof. Huxley lamented, in a recent speech, that Physiology was taught and received in British schools "as if it were a mere matter of books and hearsay," he might have extended the remark to embrace the entire body of their teaching, whereas in American schools (at least in Rush Medical College under the care of Prof. Freer) Physiology is taught in a way in every particular as demonstrative as anatomy, and its immediate bearings upon hygiene and therapeutics as definitely illustrated as the bearings of anatomy upon surgery.

6. That chemistry in like manner is as thoroughly taught in a score of American medical colleges as in the most vaunted schools of the old world.

7. That the same is true with regard to general therapeutics and materia medica, with the addition of a wholesome scepticism in regard to much of the latter, which the absurdly "conservative" notions of the transatlantic schools will in no wise permit.

8. That the true relations of the specialties to general practice are better understood, and each less exclusively relied upon in America than elsewhere in Christendom or China.

9. That so far as anything can be determined by statistics, the application of the elementary principles to the practice of the art shows a better result, whether in medical, surgical or obstetrical practice, than the European records can produce. Subordinate to

this statement we claim that the average graduate of the respectable American college will have a better chance of success in general practice, than his, average, imported competitor, however many Examining Boards have compelled him to answer absurd and unnecessary questions with equally foolish and obsolete forms of words.

10. The object of medical teaching is not merely to store the mind with facts, but to cultivate the capacity of students to think right on medical subjects. The method of Bacon is better than that of the mediæval schoolmen. Sound judgment is infinitely preferable to mere memory. The best medical teacher is not the one who can best cram his pupils with notions, but he who can elevate them to a high plane of medical thought. There are many learned men, but few wise. There are many whose only approach to wisdom is that they cry aloud in the streets (or medical conventions) and no man regards them.

11. There are two modes of competition between the medical colleges of this country, and the profession understand them. There is the competition of fees, and the competition of merit. The public do not understand the difference. Not one graduate in a hundred is asked where he got his diploma. The American cares little for parchments of any sort—he judges by results. If he finds an intelligent, clear-headed man he is quite apt to trust him even with his health and life. If the individual is dull and thick-headed, he will sooner try a homœopathist or a woman.

When the graduates of a college succeed, that college will have students whatever its fees, or whether its faculty make clamorous speeches in conventions or not. In America, at least, "nothing succeeds like success."

12. Sound opinions will secure their own adoption without incessant talking about them, and therefore we shall have no time to spare for further controversy on American Medical Education.

Underbidding.

At the late Medical Teachers' Convention, Prof. A. Hammer offered the following resolution, seconded by Prof. Moore:

Resolved, That the attempt on the part of any existing schools, to reduce their tuition fees, or of any new College to be started, to underbid its neighbors, shall be by this body considered and pronounced to be an act of dishonesty.

After some discussion, participated in by Professors Hammer, Murphy, and Davis, the mover, with the consent of the house, withdrew the resolution.

The "entangling alliances" so long sought by the "uneasy gentlemen," we take it, may now be considered as self-dissolved. It is generally understood that the failure to adopt the above resolution was secured by certain well known agitators who contemplated a grand *coup d'etat* for approximately "free medical education." The proposed *coup*, however, has been temporarily postponed, as it is believed the same result can be practically secured by donating, or discounting, the nominal fees in a sufficient number of cases to warrant continued publication of annual catalogues.

Meanwhile, we repeat, the men who most of all have clamored about medical reform, are the very ones who most of all personally need it. Their clamor is a feeble imitation of the "stop-thief" cry of the streets. The best method of acquiring respect is to be respectable, and the best method of elevating the standard of medical education is for each medical instructor to see to it that he himself acquires all possible knowledge of the subject which he is appointed to teach. This cannot be accomplished by society resolutions.

Muriatic Acid in Fever.

This is not a "new practice" or "German practice," as a correspondent surmises. It was employed by Prof. Nathan Smith as early as 1798. Of course it became more popular after having gone to Europe and returned. It is usually the case that the improvements which the active American mind develops are not received by the book manufacturers, or a certain class of flunkey devotees of transatlantic dotage, until they have passed the salt water at least twice. It is safe to say that the majority of approved methods of modern therapeutics are of American and not of European origin. It is time to frown down and laugh down the slavish deference to foreign *dicta*, both in modes of education and practice, which belittle many of our writers.

It is fair to state that Prof. Smith did not look upon the muriatic acid as in anywise a specific for typhus, but only as a subsidiary remedy, and in fact this is its appropriate position. All so-called

medicines in typhoid fevers are only curative in so far as they promote on the one hand elimination and on the other repair. We do not even except veratrum viride. Control of sundry symptoms is not by any necessity of the case curative action. That is homœopathic doctrine.

Editors' Convention.

Our acknowledgments are due for advance sheets of proceedings of the recent convention of several of the medical editors of the country. We receive with suitable humility the apostolic lecture on how to conduct a medical journal, and shall continue as heretofore to follow him, as of old time—

—dextræ se parvus Iŭlus
Implicuit, sequitur que patrem non passibus æquis.
——Ferimur per opaca locorum.

But, positively, as will be seen by consulting previous pages of this number of the *Journal*, the pressure of original matter is just now so great that we are lugubriously fain to treasure up, as best we may, its profound teachings and leave the lecture itself to that immortality it will most deservedly and certainly achieve without our insignificant assistance. "Can a man gild refined gold, etc., etc.?" It is our earnest prayer that the medical editors at the next convention may have an equally eloquent, instructive, persuasive and entertaining "feast of reason and flow of soul," all compact.

News and Gossip.

The distinguished surgeon, Prof. Syme, is dead.——Sir James Y. Simpson is to have a monument in Westminster Abbey.——Rokitanski has been elected President of the Imperial Academy of Sciences of Vienna.——Dr. J. L. Sullivan, of Mass., writes in defense of the American Medical Association, which is laudable, for *De mortuis nil*, etc.——One of our New York friends thinks one of the lamentable characteristics of American medical journalism is its "lack of independence—an almost childlike deference to traditional or self-constituted authorities—which, with few exceptions, is noticeable in our contemporaries." In a previous

article, he thinks he would be content with the British system of medical education.——Dr. Paul Schœppe, of poisoning notoriety, has been refused a writ of error in Pennsylvania. His only chance now seems to be to "swear the peace" against the hangman.——Prof. Gross is not in favor of women as medical practitioners. President Stille favors petticoated medicine. Quite a wrangle was *gendered* in the Pennsylvania State Medical Society on this topic.——The *Nashville Medical Journal* comes to us in a new and neat dress, on which we congratulate it. Dr. Bowling is relieved from the cares and losses of publication, and thereanent, without the fear of the apostle before his eyes, he expresses himself facetiously. Drs. Nichol, Eve and Briggs have been added to the editorial force—Dr. W. Nichol being the managing editor. Whoever felicitates himself that Prof. Bowling has laid down his spear, we opine, however, would find himself mistaken, on occasion.——Dr. Peter, of Paris, prefers, in all cases, the Tinct. Iodinii, as a vesicant, to the cantharides.——It has been shown by M. Burral, before the Academy of Sciences at Paris, that rain water contains a notable quantity of phosphoric acid. By drinking 440 gallons of rain water, a man will imbibe from 13 to 15 grains of phosphorus; good news for the hydro- and homœopathists.——Large doses, internally, of crystallized carbolic acid are commended in variola at Paris. Better than this, the decrease of dyspepsia in that city is said to be attributable to the largely increased consumption of apples. One hundred millions of apples are digested in Paris every winter. This is probably the reason why it is written: "By their fruits ye shall know them," dyspepsia notably begetting bad temper.——Currents of electricity passed through the throat will often relieve severe hoarseness, at least temporarily. Hereafter, opera houses are to be furnished with a battery behind the scenes.——Dr. Lisle thinks arsenious acid will cure two-thirds of apparently hopeless cases of insanity. We think it will stop it in all cases, if the doses are large enough.——Dr. Thorne says permanganate of potash is *the* thing for oxaluria. He gives a teaspoonful three times a day of a solution containing four grains to the ounce of water.——Which reminds us that our friend Dr. Paoli thinks highly of this remedy in the treatment of rheumatism—so highly indeed, that he long since promised us an article on the subject.——Dr. Stivers, of San Francisco, eulogizes hydrate of chloral in full doses in delirium tremens, and Prof. Hammond, of New York, has favorable impressions from its employment in chorea. None of our correspondents as yet quote its employment in child-birth.——The *Indiana Med. Jour.* seems to regret that the Am. Med. Association failed to provide for compelling life insurance companies to pay their examiners the five dollar fees. Will the exponents of the Association tell us, "Why this is thus"?——Dr. Reynolds read a

paper before the British Med. Association, highly recommending (in the usual terms, which see,) tincture of the perchloride of iron in rheumatic fever. No limitations as to the period of the disease. ——In the State of Michigan, clergymen and physicians live to 59 years, shoemakers 55½, and farmers 51 years. Dry goods clerks, however, measure off only 33.14 years.——Egyptian mummies are now regularly shipped to England for conversion into manure. The Pharaohs are said to be excellent fertilizers.—— Dr. Tom O. Edwards, of Lancaster, Ohio, well known to the majority of our readers, reports in the *Bost. Jour. of the Gyn. Society*, a case of removal of a horse-shoe pessary from the bladder of a woman, where it had been introduced by a womb doctor, to relieve *prolapsus uteri*. This beats Prof. Chapman's case, where the student could not tell the same organs from a cart wheel. The womb doctor's explanation of the case was this: "I must have put one leg in the urethra, and as I reached for grease to anoint my fingers, the bladder must have sucked it in." Dr. T. O. E. fails to see the point of the explanation, but there must be one somewhere, as this makes four cases recorded of similar mal-introductions. We are obliged to add our own opinion, that in nine cases out of ten, when used, the horse-shoe or any other pessaries are as much out of place in the vagina, as in the bladder or œsophagus. In the great majority of cases which present themselves in private practice, we either advise, or, personally, dislodge the instruments, and toss them into the stove. — In the same *Journal* Dr. Jackson calls attention to the remarkable aphrodisiac powers of the *Helonias Dioica* or [false] unicorn root. He employs it in the dose of a dram of the powdered root three times a day. Dr. J. found this remedy capable of removing oxalate of lime from the urine in cases of that diathesis. Its use is suggested in loss of tone of the cremaster muscle, varicocele, relaxed vaginal parietes, etc. This article was first permanently brought to the notice of the profession by Dr. Braman of Brighton (Bost. M. & S. Journal, v. XL., p. 416) in 1849. Prof. Charles A. Lee subsequently eulogized it—the eclectics rejoiced in it, and now the *Chic. Med. Jour.* pats its head and dismisses it for its travels, through the press and people, for its nine days' new lease of life.——"The *country members*," a medical review of that excellent little book, *A Physician's Problem*, thinks, should have had the benefit of translations of the frequent quotations in Latin, French and other languages. We will wager a copy of Wood's Pocket Medical Lexicon, that that reviewer has never lived in the country, and knows nothing of the class of men he impliedly sneers at. Let us inform him that in this country the rural practitioners, as a body, surpass their city brethren in both general and professional knowledge. In the country, and particularly in small villages of a few thousand inhabitants, a man's real qualifications are scrutinized

with a closeness and sharpness impossible in the city. If a doctor wishes to conceal his ignorance, let him go to the larger cities where *deportment* will answer his turn with the flimsiest possible acquaintance with his business. But unless thoroughly *posted*, let him beware of the town of from 2,500 to 10,000 inhabitants. He must run the gauntlet of the Committee of the Whole, ready to resolve themselves into a Committee of Safety. Men will not be wanting, apparently plain men, who will see "through and through" him. In the great city, nobody has time for his analysis, unless he foolishly invokes it by presumption.

Medical Witnesses.

A medical witness would do well to remember, 1st, That no one has a *right*, as the law now stands, to ask an *opinion* of him; 2d, That, if asked for an opinion, he may refuse to give it; and 3d, That, in order to throw doubt on his testimony, the opposing counsel will, at times, endeavor to entrap him into the expression of an opinion, and afterwards, by subsequent questions, to lead him to absurd conclusions, whereby his testimony, although strictly accurate, may be made to appear wrong in the eyes of the jury. 4th. In the statement of facts, it would be well to be as brief as is consistent with clearness. Moreover, the witness should, as far as possible, avoid all technical language. For example, a witness, when about to instruct a jury, will lose credit for clearness of statement, and may darken the mind of the whole court, by telling of the *scapula* instead of the shoulder-blade, or using *clavicle* for collar-bone, *sternum* for breast-bone, etc. 5th. If he be not sure that he is really an expert in the matter in hand, he should beware of going upon the stand at all. If he do so, he deserves, and probably will get, a severe castigation from opposite counsel, and he has no right to ask sympathy from his professional associates. He cannot blame lawyers for even apparent rudeness in their attempts to prove him, before the jury, to be the ignoramus he really is. 6th. Some, while on the stand, seem to forget the great difference there is between the statement of a fact, or of a series of facts, and the inferences that may be made from these facts. The facts should be given, the inferences may be left to the wisdom of the court or jury to make. If the witness makes them, he does so at the risk of severe criticism.—*Boston Med. Jour.*

First Meeting of the North-Eastern Indiana Medical Soc.

Pursuant to a call for the purpose of organizing a Medical Society to embrace the counties of LaGrange, Steuben, Noble and DeKalb, the following named physicians met on Wednesday, June 15th, at the parlor of the Tremont House, Kendallville, Ind.:

Drs. Denny, Carr, Crum, Palmiter, Randall, Landon, Ligonier; Franks, Adair, Brimfield; Fansler, Rome City; Ward, Wawaka; Denny, Hawpatch; Wood, Angola; Dancer, South Milford; Wright, Avilla; Vincent, Abell, Williams, Gilbert, Kendallville.

After reading the minutes of the preliminary meeting held May 20th, 1870, the committee on permanent organization, consisting of Drs. Denny, Franks, and Palmiter, reported the following officers, who were promptly elected:

President—O. J. Vincent. Vice-Presidents—Wood, Dancer, Stough, Palmiter. Secretary—J. L. Gilbert. Corresponding Secretary—D. W. Crum. Treasurer, L. F. Abell. Censors—Drs. Carr, Williams, Franks, Denny and Landon.

On motion, the Chair appointed Drs. Denny, Wood and Crum to prepare a Constitution and By-Laws.

They reported immediately, and a Constitution and By-Laws were adopted, of which the Secretary was ordered to have one hundred copies printed. A fee-bill was then adopted, and two hundred copies ordered to be printed in card form.

The following resolutions were adopted and ordered to be published in the papers of the counties of Steuben, LaGrange, DeKalb and Noble:

Resolved, That all who dishonestly or maliciously refuse to pay their doctor bills be reported to this society.

Resolved, That no member of this society shall furnish medical aid, except in extreme cases, to persons thus reported, until they have paid their former doctor bills, unless they pay a double fee in advance.

Resolved, That the honest poor are always the proper subjects for our sympathy.

The code of ethics of the American Medical Association was adopted. On motion, Drs. Landon and Wood were requested to prepare essays to be read at the next meeting.

Scarlatina and Diphtheria were selected as subjects for discussion at the next meeting.

On motion, the Secretary was ordered to publish the proceedings of this meeting in the journals of the four counties named above, and in the medical journals of Chicago and Cincinnati.

The society then adjourned, to meet at Waterloo, on the first Tuesday of September next. O. J. VINCENT, *Pres.*

J. L. GILBERT, *Sec.*

American Pharmaceutical Association. Notice of Annual Meeting.

The 18th Annual Meeting of the American Pharmaceutical Association will be held in the city of Baltimore, on the second Tuesday (the 13th day) of September, 1870, commencing at 3 o'clock, P. M. The place of meeting and the arrangements for the accommodation of those who attend, will

be announced by the local Secretary. It is expected that the several standing and special committees will be prepared with full and highly instructive reports on the many important subjects which should engage our earnest attention at this time.

The central position of Baltimore will afford opportunity for many to be present at this meeting who have not usually met with us. A full attendance of the members is earnestly desired, as, among the important business to be brought forward, will be the revision of the constitution more particularly in reference to improving the financial status of the Association.

Pharmacists and druggists eligible to membership are earnestly invited to forward or to present their names for election and thereby aid in extending the usefulness of this Association. Those desiring to join can obtain the necessary blank applications from the chairman of the Executive Committee, Thomas S. Wiegaud, 528 Arch street, or from the permanent Secretary, John M. Maisch, 1607 Ridge avenue, Philadelphia. A cordial invitation is extended to all engaged in manufactures in any way connected with Pharmacy or Chemistry, to send specimens of their productions for exhibition during the session. These may be sent to Prof. J. Faris Moore, local Secretary, Baltimore, accompanied with an invoice and a full description of the articles sent.

E. H. SARGENT, *President.*

Chicago, July 1, 1870.

Obituary.

J. S. HILDRETH, M.D., formerly Superintendent of the Dessuarres Eye and Ear Hospital, occupying the Cook County Hospital building in this city during the war, and recently engaged in the practice of that specialty at his residence, 526 Wabash avenue, died suddenly July 22. It is understood that he had been suffering severely from neuralgia, and that his death was due to an overdose, accidentally taken, of some powerful narcotic. Dr. H. was the son-in-law of the Hon. Jacob M. Howard, of Detroit, one of the U. S. senators from Michigan. His associates on the medical staff of Cook County Hospital adopted the following resolutions:

Whereas, We have just learned of the sudden death of our friend and associate, J. S. Hildreth, M.D.; therefore

Resolved, That in the death of Dr. Hildreth the medical board has lost one of its most worthy and industrious members, the profession of our city one of its brightest ornaments, and society a gentleman of high culture and excellent social qualifications.

Resolved, That in common with the entire profession, we tender to his afflicted family the assurance of our high respect for the deceased, and our heartfelt sympathy for them in this their irreparable loss.

Resolved, That the board attend the funeral in a body, and ask permission to render upon that occasion such services as the family may designate.

Resolved, That a copy of these resolutions be sent to each of the daily papers of this city, and to the medical journals for publication; a copy transmitted to the family of the deceased, and also that a copy be preserved in the archives of this hospital.